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THE AMERICAN

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JULY, 1854.

PART I.—ESSAYS, MONOGRAPHS, AND CASES.

The Legal Relations of Physicians to their Patients. Extracts from a Lecture on the Rights and Liabilities of the Physician and Surgeon; being part of a course of lectures on Medical Jurisprudence, delivered in the Medical School of Dartmouth College. By JOEL PARKER, LL. D., Professor of Law in Harvard University, etc., etc.

IN some occupations in the service of the public, where an individual holds himself out as ready to perform a service to whoever may apply, the law requires him to render that service to whoever comes in a proper manner and is prepared to pay, so long as he thus holds himself out and is provided with the means. Such is the case with common carriers, stage-coach proprietors, and railroad corporations.

This principle, I think, has never been extended to the learned professions. It is not to divines, it could not well be to lawyers, and I am not aware of any intimation that a physician may not refuse an application for his services in the first instance.

But the question occurs, What obligation does he assume upon answering the call and proceeding to take charge of the case? I have found no case where this question has been litigated and settled.

Upon principle, there seems to be no good reason for holding, from the mere fact that the physician has been called and has prescribed, that there is a binding contract on his part to attend the patient until the termination of the disease. There is no contract upon the part of the patient to continue the employment until that period. He is at liberty to dismiss the physician at any time—and this without rendering a reason. He may so far recover, as not to desire the farther attendance of his physician whenever he chooses.

And so it seems that the physician may, in like manner, dismiss the patient when he elects so to do, with this qualification, arising from the nature of the case,—that he gives reasonable notice of his intention to abandon the employment, so that the patient may have a proper opportunity to employ another person in his stead.

By accepting the call and undertaking the care of the case, the physician undertakes generally for the performance of a service in a reasonable manner, but with no stipulation for the continuance of his attendance for any particular period. The contract of the patient is to pay for such service as shall be rendered.

It has been decided, that an attorney having engaged in a cause, if desirous of giving up the conduct of it must give reasonable notice of his intention so to do.

And I perceive no reason why the same principle may not hold good in relation to physicians.

There seems to be a sufficient reason why the physician, after commencing an attendance generally, should not desert the patient without notice, if the case requires farther treatment.

This responsibility on the part of medical men will not be a source of much difficulty.

For malpractice, a physician may in certain cases be exposed to a criminal prosecution.

There are several cases of this character against quacks and pretenders, but they have usually arisen from an attempt to commit some unlawful act, or from gross ignorance or negligence; and courts have been ready to excuse those who have erred with good intentions.

The danger of the educated physician does not lie here.

A physician is liable, also, to a civil action, for not exercising sufficient skill and care in the performance of his duty to his patients.

This is a principle fraught with danger to all medical men, and one requiring their profound consideration; not that they are subjected to a greater responsibility than that imposed upon other professions and occupations, nor that they are more likely to be heedless in the performance of their duties, but because of the peculiar means which the patient has above all other litigants, of misrepresenting his case, and of moving the sympathies of the jurors who pass upon it.

The rules which regulate this liability are deduced from the general principle of the law, that where any person undertakes for a reward, to perform a work for another, which requires skill for its accomplishment, he holds himself out as possessing the requisite knowledge and skill, and engages that he will exert and apply that skill in the performance of the work he undertakes. And if he does not possess the skill which is requisite, and the employer, by reason of the want of it, suffers an injury; or if possessing it he does not use it, either from wilfulness or negligence, and damage is thereby sustained by the employer,—the party who undertakes the performance of the service is liable to a suit for the recovery of the damages sustained by his incapacity, wilfulness, or negligence.

Thus, the blacksmith who undertakes to shoe a horse, and ignorantly or negligently lames him; and the mechanic who, undertaking to repair a piece of machinery, fails, from incapacity or carelessness, to perform what he agrees to do, becomes answerable for the injury occasioned by his breach of duty. And so with the attorney-at-law who, from want of a competent knowledge of his profession, or from neglect in applying his professional skill to the case committed to him, is liable at the suit of the client for the damage thereby sustained.

In like manner and upon the same principle, a person who holds himself out as a physician and assumes the care of a patient, undertakes for the necessary skill to treat the disease in a proper manner, and to prescribe the medicines suited to counteract and cure, if perchance it may be cured, or to alleviate the pain of it so far as that may reasonably be done; and if he fail in the performance of the duty thus devolved upon him by his employment, whether the failure be the result of ignorance of his profession or want of due care in his prescriptions, if injury to the system of the patient, delay in the cure, or unnecessary pain, can be shown to have resulted from his want of skill or care, the patient may have an action to recover his damages. The rule applies with full force in surgical practice; and the great danger of the medical man lies here. Actions are rare, except in cases of surgery; and in cases of that character, the plaintiff generally comes into court with some visible deformity, which, however it may have been occasioned—whether by his negligence, restlessness, or wilfulness—excites sympathy; and being attributed to the mismanagement of the defendant, he is in great danger even when he has been in no fault.

Several cases of this character have fallen under my own observation.

The inquiry naturally arises, How may the medical man best avoid the danger of loss—loss of money, and perhaps to some extent loss of reputation—through such prosecutions. It has been suggested, that before acting in any case, he should require a bond or writing exonerating him from all responsibility, or perhaps containing a direct stipulation not to prosecute a case of failure to effect a cure.

Possibly, such a document may have a tendency to restrain the party who has executed it from instituting a suit; but it admits of very grave doubt whether it could have any legal operation to exempt the physician from any responsibility.

Theoretically, he is liable only for want of skill, or negligence; practically, he is in danger from an unreasonable claim, and from the sympathy of the jury. The document, to be of any avail as a legal bar to a right of action, would be in effect a contract that the physician should not be liable, even if he lacked skill or was guilty of negligence. But it has been held that it was against the policy of the law to permit a party to contract for exemption from the legal consequences of his own fraud; and gross negligence has been held equivalent to fraud.

Whether the principle would be extended farther, and held to embrace such a contract with a physician, remains to be seen.

Such a precaution may do no harm; but from the nature of the case it must be impracticable in some instances to procure such writing from the patient himself.

Another precaution in cases where danger of a suit may be apprehended, is to secure sufficient evidence of the state and progress of the case, from time to time, by an examination by other physicians and by intelligent men not of the profession, and therefore not liable to a suspicion that their testimony is influenced by an *esprit du corps*.

Another, when the patient is refractory or unreasonable, is to decline further attendance, assigning the reason, and giving reasonable time to procure another medical attendant. But whenever this course is resorted to, there should be plenary evidence respecting the state in which the case was left.

Other measures will suggest themselves as adapted, more or less, to each case as it arises. Perhaps none of them can give a perfect assurance of exemption from unreasonable prosecutions.

But something may yet be hoped from an intelligent public opinion, which shall rebuke this sponging of the profession to indemnify the patient, in many instances for the consequences of his own folly or negligence.

Clinical Lectures on some of the principal Diseases of the Eye. Delivered at the New York Medical College, East 13th Street, May, 1854, by Isidor Glück, M. D., Cor. Fellow Med. Soc. of London.

[Continued from p. 432.]

CATARACT.

Eye specula, of Helmholtz, Coccius, Klaunig. Varieties of Cataract, Black cataract, etc., Secondary cataract, Spurious cataract, fib. alb. sang. pigment. Maturity, Complications, Treatment Medical and Surgical, etc.

Gentlemen! The Eye Speculum, or Ophthalmoscope, is an illuminating instrument which serves for examining the illuminated interior parts of the eye, and thus distinctly shows organic changes of the aqueous humor, of the lens and its capsule, of the vitreous humor, the retina, and choroidea, when unobservable by the naked eye. The necessity of such an instrument is obvious, if we reflect that the retina is almost entirely concealed from view to the naked eye. Various contrivances and modifications of them have been introduced for this purpose.

Helmholtz devised this speculum, which consists, as you observe, of *reflectors*, to illuminate the retina, and a *concave lens*, to bring its structure within our focus of vision. The reflectors are four parallel and well-polished slips of glass, which are fixed close by an open frame, which is fastened down by screws to the sides of a short square tube. One end of the tube is cut obliquely to form an angle of 56° with the base or other end. The exterior is bronzed, the interior lined with black velvet. A diaphragm and a biconcave lens, No. 12, are placed at the base, and secured by a hollow eye-piece, which can be screwed off and on so as to allow the lenses to be changed.

Method of using it.—The patient should be seated in a dark room; a good oil or gas lamp should be placed on his side, on a level with his eyes. The reflectors must be turned towards the eye to be examined (the pupil should be dilated by atropine), and must be adjusted so as to throw the light in the direction of the axis of the instrument on the eye to be observed. The observer, having closed one eye, looks through the biconcave lens, and is thus enabled to see the interior of the eye illuminated. The rays of light, on leaving the convex surface of the cornea, are convergent; but the observer's eye can only bring to a focus slightly convergent or parallel rays; the necessity, therefore, for interposing a concave lens in order to disperse the rays before entering the observer's eye, is evident. By some management of this instrument, if the eye to be examined is turned inwards, you may see in the healthy eye the blood-vessels of the retina and the entrance of the optic nerve, which is recognized by its brilliant white color; it is not always easy to detect it, and some practice is required in the use of this instrument in order to bring them into view. Round about the optic nerve the color of the retina is clearest, and becomes darker towards each side. If the eye of the patient is directed inwards, the papilla nervi optici may be detected.

Coccius invented a speculum more suited to show the interior structure and changes of the eye. It consists, as you see, of a perforated mirror and a lens. The rays of light from a gas, or better, an oil lamp, are concentrated by the lens and thrown on the mirror. This is held before the eye to be examined, and the rays are thrown through the pupil on to the retina. The unabsorbed rays return in the same direction, and are received by the eye of an observer, which is behind the mirror, on the spot where it is perforated. The rays of light are reflected at an angle upon the mirror, and are conveyed to a focus on the retina by the media of the eye; the unabsorbed rays return on leaving the eye to the mirror whence they came, and are also received by the eye of the observer.

Method of using it.—The pupil of the eye having been dilated by atropine, the patient and surgeon are seated, as in the use of the other speculum. The mirror is held opposite the eye to be examined, the lens must be adjusted so that a bright concentrated light should be seen to fall on the pupil. The surgeon now applies his eye to the back of the mirror. This instrument must be held at different distances from the eye, until the retina is exposed to view, and its parts clearly seen by different movements of the eye. You see now the whole pupil illuminated by the concentrated light; if you interpose between the eye of the patient and the mirror, convex lens of one and three-quarters focus, at a distance of one inch, you will readily distinguish the magnified vessels, and see clearly the white, shining optic nerve. The lens must be held at a shorter distance from the eye than its focus is, in order to make allowance for the space from the cornea to the retina. An interposed biconvex lens will show the vessels clearly defined, but diminished. Its adjustment requires practice and patience. More manageable and simpler in its construction is the

Ophthalmoscope of Klaunig.

It consists of a perforated, biconvex lens of fourteen inches focus, is thirty-five millimetres in diameter, and is provided with a blackened hole of four and a half millimeters—one side of the lens is covered with foil and framed in a dark frame, to which a handle is attached. The best mirror for reflecting concentrated light is a concave one; but this causes an intense and disturbing reflection from the cornea, and dazzles the eye of the patient; but in connection with a biconvex lens, the rays of light are broken twice by entering and leaving the lens; consequently, the divergent rays of light will be removed and the intensity of the flame thus diminished. In its effect, this mirror is equal to a concave mirror of three and a half inches focus.

Mode of using it.—In a dark room, or a place well shaded, the patient and surgeon may be seated, the light, oil or gas lamp, is to be placed on the opposite side of the eye to be examined; the speculum should be held about three and a quarter inches from the eye, in such a manner as to reflect the rays of the light and to throw them through the pupil on to the retina. The apex of the cone of light thus formed should fall behind the pupil, which, if it be a small one, must be dilated by atropine. I prefer the gas light to be placed above and behind the patient. As the mirror has to be adjusted and turned in different ways, the observer's eye is exposed to its influence, and the patient's eye is not sufficiently shaded when it is placed on the side. The observer applies his eye to the back of the mirror, the hole.

The application of it is more convenient, as you see, when the light is placed above and a little behind the head of the patient, as the mirror may be held directly opposite the eye without being turned sideways in order to illuminate it. By its use the slightest opacities may be detected and traced, be they in the lens or capsule or aqueous humor. The vessels, of course, will be invisible if there exists an opacity of the lens to a greater extent; however, even if the opacity may not be as yet traceable, and some change still exists in the transparent media, the greatest difficulty will be found in bringing the vessels into view. I examined several cataract patients with this speculum but a few days ago, and I readily distinguished the opacities situated in the lens and those of the capsule. In one instance, a woman, about forty years of age, I could trace the opacity from the centre towards the periphery. The opacity formed a tripartite division of the lens, which could be seen even without the use of a magnifying glass. In another individual the opacity could be detected on the periphery of the capsule, in form of longitudinal streaks, situated close to each other and presenting the appearance of eye-lashes turned downwards and outwards. In the right eye of the same old man, there were opacities in the form of round spots on the capsule; and at the same time a synechia posterior, confined to one spot, where the uvea of the iris was connected with a part of the lower margin of the lens, was distinctly visible by application of the magnifying glass before the eye speculum. The latter individual was also subjected to the examination by the use of Coccius' speculum. I had some difficulty in tracing the vessels, as they were partly masked by the opacity of the lens; the other reason may be that my Klaunig's speculum was deprived of the foil in some parts near the hole, and thus the intensity of the reflection was diminished. If concave glasses are applied before the eye to be examined, the vessels in the healthy eye may be readily distinguished, although diminished, still more defined. The distance at which Klaunig's mirror has to be applied, generally depends upon the extent of the hole in the mirror and the extent of the pupil. In order to illuminate the eye it is necessary to throw some concentrated rays of light, emanating from the centre of the mirror, around the hole; the shadow, therefore, of the hole, together with some concentrated rays of light, must be thrown into the interior of the eye; consequently, the more dilated the pupil is, and the smaller the hole in the mirror, the nearer may the mirror be brought to the eye; whereas, the larger the opening in the mirror, and the smaller the pupil, the more will it be necessary to remove the mirror from the eye, and the more will the mirror exert a dazzling influence upon the patient. If you bring the mirror too close you will be misled, especially if you look at the eye by a wax-candle, to mistake one of the images of the flame, if bright and almost appearing white, for the entrance of the optic nerve if brought in a certain direction; on the other hand, you must be careful not to consider the depicted mirror in the eye to be the appearance of the nerve.

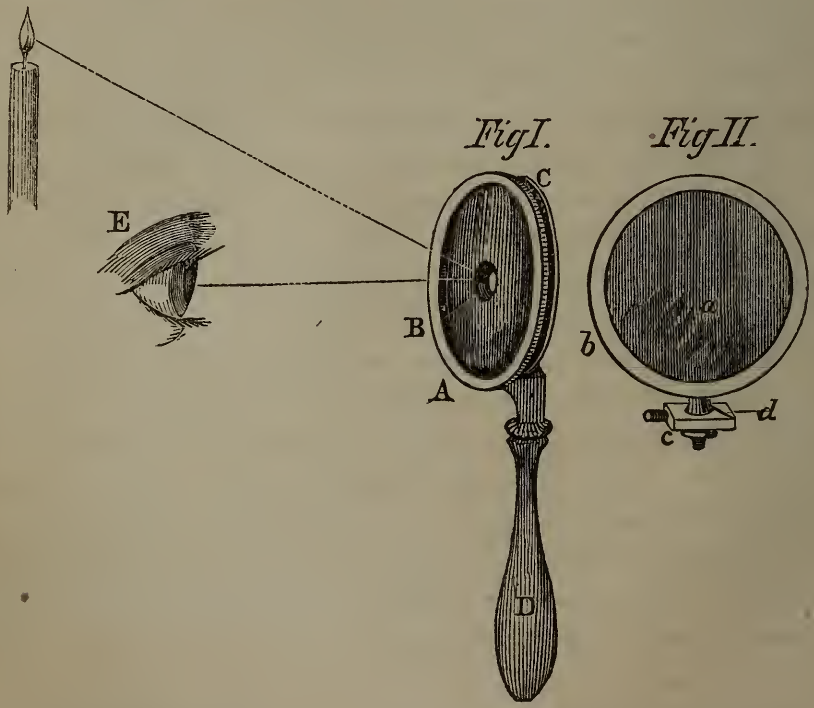

Fig. I.—A, a biconvex lens; B, the hole; C, the frame; D, the handle; E, the patient's eye.

Fig. II.—*a*, the plane mirror; *b*, the frame; *c*, the horizontal piece to be fixed to the first mirror; *d*, indicating the line to turn the mirror in an angle of forty-five degrees.

Klaunig has devised an improvement on his speculum, which consists in a second mirror, to be brought as near as possible to the first, in such a direction that a line drawn from the retina through the hole of the mirror should meet the centre of the second mirror, which is placed vertically to this line, but in its horizontal direction, at an angle of forty-five degrees. Instead of the observer, the second plane mirror receives the image, which can be seen readily without any exertion. A magnifying or diminishing glass will reproduce the image accordingly, if applied instead of the second plane mirror.

Klaunig used a stronger convex glass, of eight inches focus, for this purpose, as he preferred observing closely under the influence of a stronger light. He asserts that by this means draughtsmen and those less accustomed to similar examinations, are enabled to see clearly the images. In examining myopic eyes, the refraction of their media has to be corrected by the application of a presbyopic glass, in order that the image on the retina should appear clearly defined.

The examination of the eye requires a good deal of patience and endurance, but if practised for some time, the surgeon acquires a certain ability in it, and considers it less difficult. However, great caution is required in the use of all eye specula. Nothing is more injurious than protracted examinations of the eye, for both ophthalmic surgeon and patient. The latter may, in consequence of the examination, if often repeated and protracted, acquire an additional injury from the over-exertion from the reflected strong light on the retina. Nothing is more calculated to weaken the sight and produce amblyopic and amaurotic symptoms than similar experiments and examinations, if injudiciously made.

Varieties of Cataract.

Black cataract is a rare occurrence; it is the hardest of the lenticular cataracts; when dropped into a glass the same resounds. It is apt to be confounded with amaurosis, but may be readily distinguished from the latter by the activity of the pupil, which is absent in amaurosis, or modified, being very sluggish in its movements, if there exist any at all. Further, the examination by the speculum will show the opacity of the lens in black cataract, and transparency of the same in amaurosis.

Frequently, the lens becomes lessened in volume by a natural process of absorption; the more it shrinks the more the capsule contracts upon it and shrivels up. The capsule thus shrunk, thickened, and corrugated, may contain a diminished lens (cataracta arida siliquata). The lens may be absorbed in consequence of an injury inflicted upon the eye (traumatic cataract), or a needle operation performed on it: a membranous or capsular cataract may remain, which, according to its density, may present a scarcely discernible film, or appear chalky or milky; ordinarily it is unequal in its extent. The opaque membrane, consisting of the two parts of the capsule closely situated, may be connected with the ciliary body, or more or less separated from it. If entirely separated from the ciliary body, it may oscillate backwards and forwards during the movements of the eye (shaking cataract), or float behind the iris (floating cataract), or even pass into the anterior chamber. A calcareous or bony transformation of the capsule and the lens may take place. Desmarres, of Paris, and White Cooper, of London, and others, observed similar ones.

Secondary cataracts are formed in consequence of needle operations, and may be lenticular, capsular, or capsulo-lenticular.

Spurious cataracts are formed as products of previous or existing inflammation of the iris, choroidea, ciliary body, retina, or capsule, and may be

(*a*) Fibrinous.
(*b*) Purulent.
(*c*) Sanguineous.
(*d*) Pigmentous (uvean).

(*a*) The *fibrinous cataract* is the result of an inflammation of the iris and the capsule, and is deposited in the latter in the pupil, sometimes pushing forwards into the anterior chamber more or less connected with the iris. It presents a white spot, mixed with yellowish points or tubercles.

(*b*) The *purulent cataract* is formed by a collection of organized pus in the pupil, where a thick, unequal, wrinkled mass is visible, connected entirely with the pupil, which is immovable. The iris is discolored, and often shows marks of a previous chronic inflammation. At the same time, an organized hypopion is met with in the anterior chamber. Vision is entirely gone, and little hope remains for its restoration.

(*c*) *Sanguineous cataract* developes itself in consequence of wounds inflicted upon the eye, or in consequence of spontaneous ruptures of the vessels (apoplexy) in the eye. The anterior chamber, or only the pupil, is filled up with a dark brown, almost black mass, which shows *gray* prominences in some of its parts.

(*d*) *Pigmentous* (*uvéenne*) *cataract** presents a dark brown or black opacity, which is formed by the uvean pigment deposited in the pupil on the fibro-albuminous product, which covers the capsule, partially or in its whole extent. The pigmentous cataract adheres sometimes to the iris in one or more points. Sometimes it is formed only in the centre of the capsule, and is not connected with the iris, which then retains its natural movements. This form of spurious cataract is produced by a traumatic inflammation of the eye, chiefly if iritis is associated with it; when the inflammation may extend from the iris to the capsule, or it may be caused by an inflammation spreading from the capsule to the iris. The following circumstances contribute much to the formation of a spurious uvean cataract and its being situated in the pupil. In internal inflammation of the eye, chiefly iritis, the vessels of the iris are gorged with blood, the iris develops itself in thickness from forwards backwards, and in its superficial extent; the parenchyma of the iris thus enlarged, causes a diminution of the pupil (which lasts as long as the anomalous state of the iris exists), and approaches the capsule, which underwent the same changes as the iris; and thus tends to meet, as it were, the iris. The greater the vascularity and inflammation of both, the easier is the adhesion effected. Besides, the form of the posterior chamber being such as to permit a nearer approaching of the centre of the iris than of its periphery to the capsule, it is evident that it facilitates the formation of an adhesion. The pigment or uvea is developed on a larger surface in consequence of the extension of the parenchyma of the iris. If the secreted organizable lymph is deposited in abundance, and the internal inflammation lasts a long time, the adhesion between the iris and capsule will be a permanent one, thus producing a synechia posterior. But if, on the contrary, the fibro-albuminous deposit is formed in a small quantity and becomes slowly organized, and at the same time the turgescence of the vessels disappears with the inflammation of the iris, the latter will tend to resume its natural movements, by retracting towards the ciliary margin. It will result in this struggle with this badly-organized new formation, that the false membrane will give way by degrees, and will thus give rise to the formation of longer or shorter fibro-albuminous threads, covered on their anterior surface with pigment, connected in front with the iris and backwards with the capsule; or, in other instances, the false membrane being firmly connected with the capsule, will retain some parts of the uvea, the pigment which the iris lost in its tendency to resume its normal position and left on the capsule; and by withdrawing thus from the connection with the capsule, a pigmentous cataract will be formed, without connection with the iris.

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* Desmarres.

Vision is more or less altered, according to the extent of the uvean deposit on the capsule and the obliteration of the pupil; the patient retains always the perceptibility of light and darkness.

Pigmentous cataract may be confounded with black cataract and amaurosis, and may be distinguished by the following symptoms:—

Pigmentous(uvean)cataract.	*Black cataract.*	*Amaurosis.*
The *pupil* is immovable in the complete pig. cat.; is adherent, and presents a more or less irregular form. By application of atropine, it may *not* dilate at all, or do so irregularly.	The *pupil* is movable, as in the normal state.	The *pupil* is round or elliptic, and not attached to the capsule by black threads, thus producing a more or less anomalous form of the pupil.
The *color* of the pupil is seldom perfectly black; the color of the uvean pigment is unequally dark-brown, and mixed with blackish threads formed by the false membrane covered by the pigment.	The *color* of the pupil is seldom perfectly black; the lenticular opacity is black—duller in the centre than in the periphery.	The black color of the pupil is formed, as in the normal state, by the back ground of the globe behind, and not in the pupil.
Internal inflammation of the eye always precedes or coëxists.	No previous inflammation of the internal structure of the eye.	Inflammation of the eye mostly absent; often, it may have existed, or be present.
No shadow of the iris, if adhesion exists with the capsule to a greater extent.	A shadow of the iris is visible on the capsule.	
By examination with eye speculum, opacities are observable in front of the lens.	Opacity in the lens.	No opacity in the lens or capsule. The red color of the choroidea mostly equally diffused, deposits on the chor. or retina sometimes visible.

Adhesions of the pupil are produced in consequence of internal inflammations of the eye. Change of color in the iris is usually noticeable. Change of the structure of the retina, and loss of sight, may be caused by the same inflammation. The presence of such an adhesion (synechia), demands always some consideration in the choice of the operation.

Maturity.—If a cataract has been forming for a long time, without an altered state of the other transparent media and textures of the eye, it is not absolutely necessary to await the complete change or maturity of the cataract. If, however, the cataract is the result of a still-existing inflammation or congestion in the eye, it is not advisable to operate upon it, but it is preferable to wait till the change has been completed.

Complications may exist, as purely local ones, as alterations of the structure of the iris, choroidea, retina, vitreous humor; or general ones—the constitution being in a depressed state, or an unhealthy condition of some nature may exist in one of the principal organs. Similar complications have to be regarded and consulted in the choice of an operation, as well as of the time.

Treatment.—As long as the eye may be rendered serviceable, be it by application of atropine or by the use of an eye-glass, the ophthalmic surgeon is not justified in performing an operation for cataract on it. I recollect two cases under my treatment while attached to the German Hospital in London, in both of whom a partial opacity of the capsule demanded the instillation of atropine, which produced sight available for ordinary purposes. The one was a German seamstress, about twenty-five years of age, with circumscribed central opacities in both capsules. The other was a refugee, about forty years of age, with a central opacity in the left lens. Vision of the right eye was entirely gone—its textures disorganized. Both used the atropine for about ten and fifteen months, and continued in its use about twelve months ago, when I last saw them.

If we except the traumatic cataract, which, together with some of the spurious cataracts, is often amenable to medical treatment, we generally must have recourse to a surgical treatment in order to remove a cataract.

Although many ancient and modern ophthalmic surgeons pretend to have removed spontaneous idiopathic cataracts of the lens, by applications of ammonia, veratria, etc. to the temples or top of the head, I very much doubt this being a fact. The mistake may have been in the formation of the diagnosis, if not in the assertion of the truth.

The formation of the true idiopathic cataract can neither be arrested in its development nor removed by a medical treatment. Rupture of the capsule, be it produced by a fall or shock, may expose the lens to the action of the aqueous humor, and thus the lens may become absorbed without a surgical treatment.

In young individuals, the operation for cataract may be performed in one eye while the other is sound. In older individuals, it is not advisable to expose the sound, at least yet serviceable eye, to a sympathetic risk, by operating on the affected eye—the use of the available one being sometimes sufficient for the remainder of life. If, however, the second becomes gradually worse, it is useless to await the complete formation of the cataract. Cataract in one eye often gives rise to the formation of strabismus, which, if of long standing, aggravates the beneficial result of the operation. This may be considered as an additional reason for operating in young individuals when one eye is affected with cataract.

With the exception of very hot weather, almost every season of the year may be chosen for the operation. I saw operations performed with equal success in different countries (Hungary, Germany, France, and England) in various seasons; but it is not advisable to procrastinate an operation for such a month as is generally known to be a very changeable one in weather, which is more or less peculiar to every country.

In congenital cataract it is advisable to operate in six weeks or two months after birth, in order to allow time if necessary for repetition before teething begins, and then to prevent a continual oscillation of the globes, which often follows if light is shut out long from the retina. I saw Bowman operating in several instances. His remarks were to the effect that, however free you may move the needle for breaking up the cataract the subsequent inflammation is very small.

Operation on both eyes on the same day.

Jaeger, Rosas, Fabini, Roux, Guthrie, Sichel, and Desmarres, I saw operating for cataract on both eyes, on one and the same day; whereas Desmours, Dupuytren, Travers, and others, await the recovery of the operated eye before they operate on the other. The reasons for operating on both eyes on the same day are,

I. That the surgeon has to expose the patient twice to the inconveniences and accidents during the treatment, if he operates at different times, as to bleeding, vomiting (after incision), etc.;

II. That in operating on both eyes, the patient has more chance of recovering the sight, at least in one eye;

III. If the one eye is operated upon much sooner than the other, the former will, after recovery, gain a much greater relative power of accommodating the sight,* and the last one operated on is more apt to be neglected, which may produce unequal vision;

IV. In case the result of the operation is not attended with success, the patient will less willingly and perhaps not at all submit to a second trial; whereas he will be glad to submit to a second operation if he regains the sight in the operated one.

For these reasons, I decide also on operating, on this boy, on one and the same day.

However, there are instances where it is imperative not to operate on both eyes on the same day; if, for instance, two modes of operating have to be chosen in both eyes, where the peculiar symptoms consequent upon one mode would interfere with the treatment to be selected for the other, and thus endanger the result of the operation. Those who advocate the performance of the operation at different times, assert that the risk of inflammation is greater, and often settles to a greater extent in one of the eyes, and that accidents are generally of a more serious nature.

Preparation of the Patient.

A good state of health is required in patients to be operated upon for cataract. Although it is superfluous, sometimes even a disadvantage, to alter the diet the patient has been accustomed to, still it is necessary that the patient should abstain a few days, previous to the operation, from fermented liquors, and sometimes from animal food too. The bowels should be evacuated the day previous, or on the same morning; but the natural functions of the stomach and bowels must not be disturbed by unnecessary purging. In plethoric individuals, general bleeding may be necessary; whereas, a state of depression or debility may induce to a corresponding previous treatment. As a general rule, it may be considered best not to operate upon a patient with a cough; nor should the ophthalmic surgeon do so on a patient with a foul tongue, or where a specific inflammation, be it a gouty, strumous or syphilitic one, is present in the eye; or if the same was recently the seat of an inflammation from whatever cause. A long interval of time should be allowed to pass before an operation is attempted in an eye thus morbidly altered. Attention has to be paid to the secretions and excretions. The urine has to be examined, whether or not deposits of uric acid and urate of ammonia are in abundance, which may be considered as symptoms of dyspepsia or fever; the presence of phosphate of lime or ammonio magnesia phosphate will denote excessive prostration, or nervous depression; and, in short, a consideration must be had of all the functions of the animal economy upon which health depends.

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* Which may depend on the various combined actions of the ocular muscles, thus possibly altering the antero-posterior, horizontal, etc., diameters.

Advanced age is no impediment for operating; the best results follow operations performed on individuals above 90 years of age.

Operations.

Extraction, Depression, and Solution or Division, are the three established general modes of operating for cataract.

Extraction consists in making an incision through the cornea, lacerating the capsule, and forcing the lens through the pupil and opening made in the cornea.

This mode of operating is applicable for *hard*, *half-hard* and *half-soft* cataracts.

To perform it, it is necessary that within reach of the surgeon should lay two or three sharp cataract knives (Wenzel's, Beer's, Jaeger's, or Guthrie's), one or two fine probe-pointed bistouries, a pair of Maunoir's scissors, curette hook, sponge, warm water, cambric rag and bandage. The room should be provided with means for darkening it.

The patient may be seated in a lower chair without a back, the surgeon opposite in a higher chair,* while an assistant standing behind the patient, fixes (with the index and middle finger of one† hand) the upper lid to the ciliary ridge, and holds the other under the patient's chin, thus gently pressing the patient's head to his chest. The surgeon depresses with the index and middle finger of one hand* the lower lid, and fixes the globe by pressing it, and holds the instrument in the other.

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* Jaeger, Rosas, Arlt, Sichel, Desmarres.

† The left for the right eye, and right for the left eye.

The light must be allowed to fall obliquely upon the patient's eye.

Or the patient is seated in an arm chair,† and leans his head backwards, the operator stands in front or behind the patient; or the patient lays comfortably on a couch, and the surgeon is seated behind the patient, and rests his elbow on the head of the couch.‡

Suppose the patient to be seated in a chair without a back, and the operation for extraction has to be performed on the left eye §; the surgeon holding the knife in his right hand, between the thumb and the first three fingers, fixes his little finger on the malar bone, and proceeds to incise the cornea, after having touched the cornea with the flat surface of the knife, to steady the eye.

The incision may be made in three different points of the cornea; or it may be pierced about its middle, close to the junction with the sclerotica at its outer side, and a semicircular flap of the cornea may be formed parallel with its margin (superior section), or the flap may be formed on its lower half (inferior section), or on its lower and outer side (exterior and inferior section).

I prefer the superior section: if this be adopted, the cornea has to be pierced with Beer's, Wenzel's, or Jaeger's cataract knife, directly (and not obliquely) close to its junction with the sclerotica, about the middle of the cornea, at its temporal side, the knife, with its cutting edge turned upwards and the flat part parallel to the iris, has to be pushed rapidly, but steadily, across the anterior chamber; the cornea then is punctured again on the opposite (nasal) side as near as possible to its junction with the sclerotica; the knife is now carried upwards very slowly,‖ parallel with the circle formed by the junction of the iris and sclerotica, and thus the semi-circular flap is completed. The aqueous humor escapes when the section is completed. The upper lid must now be dropped, and the eye allowed to rest for a few moments; when the lid should be raised again. The iris will be found to bulge forward together with the cataract against the concavity of the cornea.

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* The left hand for the right eye, and right for the left eye.

† Guthrie.

‡ Bowman, Dixon, and others.

§ The pupil is to be dilated by atropine: although it contracts quickly when the anterior chamber is opened, still the iris is less in the way of the knife while it is pushed across the chamber.

‖ If the knife is carried quickly, an irregular, mostly triangular flap is formed, often too small to allow the lens to escape.

The second part of the operation consists in introducing the curette, or kystotome, under the corneal flap; the concavity of the curette must be turned downwards, until the point is opposite the pupil, when the point is turned inwards and sunk through the capsule, which is divided by drawing the instrument across it in different directions: then the instrument must be withdrawn in the manner it was introduced.* Sometimes the capsule lacerates spontaneously, in consequence of the spasmodic action of the ocular muscles, or inadvertent pressure on the eye. In such instances the use of the curette is unnecessary.

The third part of the operation, removal of the lens, is effected by directing the patient to open the eye, when a gentle pressure is made by the blunt end of the curette upon the upper lid, and a counter-pressure on the lower with the finger's end, until the lens is dislodged, and its edge rises in the pupil. The lens thus distending the pupil, passes through it, raises up the corneal flap, and escapes from the eye. The upper lid is then brought over the eye and closed, in order to prevent the escape of the vitreous humor. After a few moments, the eye must be opened, to ascertain that the pupil is round and clear, and the corneal flap in its proper place.

After the operation thus finished, the room must be darkened, the eye kept closed and covered with a piece of linen, which should be secured by a fillet around the head. The patient may now retire, or await his usual hour for retiring, but should be seated comfortably in an arm chair.

The lower section is performed by turning the cutting edge of the knife downwards, thus forming a lower semi-circular flap; the outer flap by directing the knife downwards and outwards.

Guthrie devised a plan of operating without assistants, by fixing the lids and the globe with the fore and middle fingers of one hand, and using the knife with the other.

In the progress of the operation several casualties may occur, which may require the immediate attention of the ophthalmic surgeon. The iris may fall in the way of the knife in consequence of a premature escape of the aqueous humor, produced by undue pressure on the globe: a small bit of the iris,† especially of the pupillary margin, in contact with the edge of the knife should not be regarded, the operation ought to be completed. If a second pupil be made, the isthmus should at once be divided by the blunt-pointed scissors. If, however, a considerable portion of the iris should be in the way of the knife, the instrument should be withdrawn; if the cornea be nearly divided, the section may be completed by introducing a secondary knife. The iris may bleed or not, this circumstance need not cause anxiety. Should the aqueous humor escape before the counter-puncture is made, the knife must be withdrawn, and the operation delayed. Imperfect counter-puncture may cause a smaller flap; the secondary knife has to be used to obviate the necessity of squeezing out the cataract, which attempt would be useless and fatal to the eye, as the vitreous humor is apt to rush out. If the vitreous humor escapes with the lens, in small quantity, no particularly bad result must be anticipated; but if the quantity be a large one, the globe collapses, and no hopes remain for the restoration of sight. The capsule may be imperfectly ruptured, and thus the free exit of the lens prevented: the introduction of the curette will be necessary to enlarge the aperture of the capsule. Hard fragments of the lens fallen in the anterior chamber, must be removed by the spoon of the curette. Many other accidents, too numerous to be mentioned now, may happen and require your immediate consideration.

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* In the guarded curette is a sharp limb, more fitted for use than the ordinary one; the point is concealed by a little guard, so that the instrument is dull when closed; its introduction to the required spot is safe and easy; it may be opened by pressure on the trigger in the handle, and allowed to close when the pressure ceases.

† Walton.

After the operation, the eye must not be subjected to unnecessary examination, in order that the cornea may reunite, which takes place, generally, in from twenty-four to forty-eight hours. The surgeon must pay attention to the state of the lids during this time, and dry the lids with a sponge if any discharge exists, but should not open the eye. After three days, the surgeon may depress the lower lid and the patient raise gently his upper lid. The anterior chamber should appear filled with aqueous humor, which is a proof of reünion of the corneal flap. If neither the conjunctiva appear injected, nor the iris inflamed, the pupil be black, and the patient free from pain, the prognosis may be considered a favorable one.

The diet, which, till the fourth day, was a bland and unstimulating one, of a farinaceous kind, may now be a more supporting one; if the patient be much enfeebled or aged, beef-tea with sopped bread, may be allowed from the beginning; and solid nutriment, reduced to a pulp, may be allowed from the fifth or sixth day.

At that time, the patient may be allowed to open the eye in a subdued light, in order to test the result of the operation; he may change the bed for the arm chair, and, after a few days, walk about in the room, which should be kept ventilated, and a degree of light should be admitted that enables the patient to walk about. Sometimes the cornea unites rapidly, and the patient may recover the sight after the shortest time. The admission of light should be regulated carefully; for some weeks after the operation, the shade should be worn. Exercise should be allowed to the patient as soon as circumstances will admit it.

In a week or ten days after operation, the eye may be opened in a weak light, and may be used more freely as it becomes stronger. The patient should be suited with eye-glasses in about a month or six weeks. By the loss of the lens, the refractive power of the eye is diminished; its place must be supplied by convex glasses. The patient should select glasses with which he can see best. Two pairs of spectacles will be necessary for him; one for ordinary vision, four inches focus, the other for reading, writing, and for other purposes requiring near sight, of two and a half inches focus, as the latter must be stronger. The patient must use them very cautiously; some weeks should elapse before he uses them freely. The result of the operation may sometimes be a less favorable one.

The most common cause of failure is acute inflammation, which usually occurs during the first twenty-four hours. Acute pain is felt in the eye-ball, then in and around the orbit; the lids swell, inflame, and are covered with purulent discharge on the border; it may terminate with thickening of the capsule of the lens, with adhesion of its divided parts, or adhesion to the iris.

Subacute inflammation is still more frequently the cause of an unsuccessful result of this operation for cataract. The subacute inflammation appears later than the acute one. It comes on a few days after the operation. The lids are of a darkish hue, and infiltrated with serum (chiefly the upper eyelid); the conjunctiva of the eye-ball is elevated by serous effusion, and presents a dull red color. Elderly persons being mostly subject to this kind of operation, are, for the same reason, liable to this asthenic form of inflammation. More generous diet and stimulant draughts may be allowed, to invigorate the constitution and thus remedy this affection.

Contra-indications to this form of operating, are, from obvious reasons, a sunken eye, a small anterior chamber, extensive adhesions of the pupil.

The white ring around the cornea (arcus senilis), which, as discovered by my friend, Mr. Canton, is a fatty change of the corneal structure, is no impediment to the extraction, if it is small. A larger arcus may heal more difficultly, as Beer asserts.

Depression or couching.—The patient having been prepared, as for the previous operation, his pupil dilated by atropine,* he is placed in a low chair, while the surgeon is sitting opposite, in a higher one. The assistant fixes the upper lid, the surgeon the lower lid, and steadies the eye with one hand, using the needle with the other. After having touched the eye with the needle once or twice to steady it, the surgeon pierces with a spear-shaped or Scarpa's needle the conjunctiva, sclerotic, choroid, retina, and hyaloid membrane at a distance of a line and a half or two lines behind the margin of the cornea, nearly, but not exactly, in the middle of the eye, a little *above* its middle, as the long ciliary artery runs on each side along the middle of the eye. The needle is to be introduced on the temporal side of the globe, and its concavity placed on the convexity of the lens, after having been carried forwards and upwards. The needle must now be steadily pressed upon the cataract, so as to move it downwards and backwards out of the axis of the vision, where the needle is kept on it for a few seconds until the vitreous humor may settle over it; and then the needle is gently rotated to disengage it, and lifted up a little to see if the lens rises, when the depression is repeated; or, if it does not rise, the needle is withdrawn.

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* ℞. Aquæ dist., ℈iv.; Sulph. atropii. neut, gr. i.; Mucilag. sem. cyd., ʒ i. M.

Reclination (réclinaison) is a modification of this mode of operating, and is effected by tilting the cataract backwards, and carrying the upper edge downwards. Hard and half-hard cataracts are best suited for this operation.

The immediate effect of depression, or reclination, is striking: the opacity in the pupil disappears at once, the globe resumes its natural appearance, and vision is restored. But there are grave objections to this mode of operating, which is justly considered by many ophthalmic surgeons a less scientific one.

The after treatment consists in keeping the patient quiet, his head being elevated, the eye shaded, his diet low for a few days. Under no circumstances should the eye be suited with glasses before the lapse of some weeks. Iritis, choroiditis, retinitis, may ensue, and must be treated accordingly.

Division, solution, or absorption, is applicable in soft and fluid cataracts. It consists in dividing the capsule, in order to admit the aqueous humor to the lens, which is effected by puncturing the cornea or sclerotic; hence the two modifications, the anterior (keratonyxis) and posterior (scleronyxis). The latter I propose to perform on this boy. The anterior operation consists in introducing a curved or straight needle through the cornea, and lacerating the capsule of the lens.

Dr. Jacobs' needle is particularly adapted for the anterior operation, which is performed by placing the patient in the usual position, and introducing the point of the needle near the margin of the cornea, or even in the centre of the cornea, as no opacity from the wound has to be anticipated. When the point of the needle is once fastened in the cornea, no action of the muscles can disengage it, and the surgeon has perfect command of the eye. The operator now pushes the needle through the cornea, to bring it in contact with the lens; and that moment the eye is apt to roll inwards so much that the pupil is hid, and the surgeon must rely upon his knowledge of the direction the needle has taken, in order to bring it to the lens. The needle is then turned back, and the capsule gently torn open by its point; then, after pricking and scratching the surface of the lens with a rotating motion of the instrument, it is withdrawn in such a manner as not to wound the iris. If the lens is a soft and friable one, its fragments fall like snow into the anterior chamber, the operator may push the needle free into the lens, and twisting it round, mash it into a pulp.

If the cataract be a hard one, the capsule should be opened thus to admit the aqueous humor, for softening it and rendering it fit for being broken up on another occasion.

In the posterior operation, the straight needle with cutting edges must be introduced at about a line from the circumference of the cornea, through the conjunctiva, sclerotica, choroid, retina, and hyaloidea; its point should be brought forwards between the iris and the lens; the cutting edges, till now turned upwards and downwards, must be turned backwards and forwards; the crystalline lens, with its capsule, is to be thus divided by two or three gentle strokes.

The solution or absorption of the lens is accomplished more quickly in the anterior than in the posterior chamber; the fragments, however, of an opaque lens, acting as foreign bodies, being apt to produce considerable irritation and inflammation, during which resorption is suspended: caution is necessary in displacing the fragments, which if hard may, although small in size, produce great irritation, and demand immediate removal by a section of the cornea.

Sometimes a peculiar symptom follows in a few hours, generally in the night, after the operation has been performed. The patient is seized by nausea and vomiting. It is advisable to warn the patient that such may be the case. It lasts a few hours, or in some instances even a few days. Effervescing draughts, full opiates, mustard cataplasm to the stomach, and strict quiet, relieve it generally.

This symptom is, as Dalrymple observed, dependent on the poisonous presence of the contents of the capsule; for if such a cataract be removed by extraction, no such state follows. According to this view, Dixon recommends opening of the cornea, for the removal of the fluid, before pain and nausea comes on. Great relief is afforded by this means; and vomiting does not follow, as I observed in several instances, even if the patient be troubled by nausea for a short time.

The time which is required for the absorption of the lens, depends upon the circumstances connected with the nature of the cataract, and upon other individual peculiarities. In some persons the process of absorption will be a quicker, in others a slower one, although in both apparently the same circumstances may exist.

In some instances, a single operation will be sufficient; in others, a repetition of it will be necessary in order to hasten the absorption.

Some surgeons think it sufficient to repeat the operation after six or eight weeks, if there is no evidence of the resorption going on, as flattening of the capsule and concavity of the iris. Others prefer repeating it every three or four weeks, until complete solution and absorption has taken place. Of course, as long as inflammation exists in the eye, no repetition of the operation should be had recourse to.

Operation for capsular cataract. Secondary cataracts.

The capsule often remains, when the lens has been resorbed, in an opaque condition, occupying more or less the pupil; thus impairing proportionately vision. Sometimes it is thin, semi-transparent, and easier lacerable; sometimes thickened, and corrugated, tough and strong. The former may be removed through the cornea, by the canula forceps; the latter, if unattached to the iris, by the larger forceps, through the cornea or sclerotica. If the capsule or a false membrane is attached to the iris firmly, greater difficulty is experienced in removing it. The pupil may be cleared by the canula scissors, which are introduced through the cornea near its circumference.

These new improvements, beautifully executed by Luer, of Paris, afford the advantage of inflicting smaller wounds in the eye. Needles for eye operations are generally made too large in size. I am inclined to believe that the success of an operation much depends upon the choice of such instruments as inflict the smallest wounds.

Two cases of Poisoning by Prussic Acid. By DAVID UHL, M. D.

Hydrocyanic acid is a product peculiar to the organized kingdom, and it may be readily procured from many vegetables. Of these, the chief are the *bitter almond*, the *cherry laurel*, the *peach blossom*, the *cluster cherry*, and the *mountain ash*. The acid is met with under two forms: as pure acid, and diluted with water. The pure acid is limpid and colorless, has an acrid and pungent taste and a peculiar odor, bearing some resemblance to bitter almonds. At ordinary temperatures it decomposes spontaneously within a few hours. The pure acid is not likely to come under notice in medico-legal cases, as it is not generally met with out of the chemical laboratory; it is in the form of the dilute acid used for medicinal purposes, and as kept in the apothecary's shop, that it is commonly used as a poison. It is now generally made by the decomposition of a solution of ferrocyanide of potassium by sulphuric acid, and has the same appearance, smell, and taste, as the strong acid. The quantity of strong acid contained in the dilute acid employed in medicine, differs with the mode of preparation, and the tendency which it also has to decomposition. The prussic acid of the London Pharmacopœia contains about 3 per cent.; that of Vauquelin, 3.3 per cent.; and that of Scheele, about 5 per cent. The strength of the dilute acid employed in other countries varies from 1 to 50 per cent. Scheele's acid is most generally kept in the druggist shops in this city, but even this has been found to vary greatly in strength.

This substance is one of the most energetic and formidable of poisons; and the promptitude with which it acts when taken, even in small doses, strongly recommends it to the suicide and the murderer. "In the years 1837–8, twenty-seven cases of poisoning by prussic acid were brought under the notice of the coroner's court in London, of which eight occurred in members of the medical profession and druggists. They were all cases of suicide."

"Two cases of poisoning by essential oil of almonds also occurred in those years, and one of poisoning by prussic acid mixed with arsenic."

Six cases of suicidal poisoning by prussic acid occurred in this city during the past year, in two of which I was called upon by the coroner to make postmortem examinations.

From the difficulty of obtaining the acid, in this city, without a prescription from a physician, cases of poisoning by this drug are of comparatively rare occurrence; and as one of the cases which came under my observation is peculiar, from the large quantity taken and the suddenness of the death, *without convulsions*, I trust that their publication may prove interesting to the medical profession.

Case I.—Chas. G——, born in Germany, a druggist, aged 26 years, was seen to take an ounce of Scheele's acid from a bottle, after which he walked a distance of about twenty feet, fell upon the floor, and died instantly. A postmortem examination was made, six hours after death. The body was quite pale, lips blue, mouth open, limbs very flexible; and there was a glistening and staring expression of the eyes. The brain was healthy, but its vessels were loaded with dark fluid blood, and the lateral ventricles were filled with a sanguineous liquor. It also emitted a strong odor of prussic acid. On opening the chest, the lungs were found collapsed and of a bluish color, but were healthy in structure. The heart was healthy, but the right ventricle was filled with fluid blood. The blood appeared to be nearly all collected in the veins, while the arteries were empty. The stomach contained about four ounces of light, clear colored fluid, which emitted a strong odor of prussic acid. The mucous coat of the stomach and intestines was of a bright red color, but otherwise in a healthy condition. The liver, spleen, and kidneys, were loaded with fluid blood of a bluish color. The bladder and pancreas were both healthy, and natural in color. The odor of prussic acid emitted from the body was so strong as to produce a sense of suffocation, with dizziness, which compelled me to suspend the examination for over half an hour.

Case II.—G. F. G. aged 34, born in Germany, took a room at the Eagle Hotel on the evening of July 7th, 1853. About 12 o'clock the next morning, he was found dead in his bed. The bed stood near the window, which was open, but there was nothing found in the room which could have contained the poison. A number of letters were discovered, which proved that for some time previous he had premeditated committing suicide.

A postmortem examination was made, forty-eight hours after death. The brain was but slightly congested, but much softened, and the lateral ventricles were filled with serum. It did not emit any odor of prussic acid. The body was pale, lips blue, limbs flexible, eyes glassy, and pupils contracted. On opening the chest a strong odor of prussic acid was emitted, which was perceived by several persons who were present. The lungs were collapsed, but in a healthy condition. The heart was healthy, and the right and left cavities filled with dark, clotted blood. The stomach contained about an ounce of light colored fluid, which had a strong odor of prussic acid. The mucous membrane was somewhat reddened, but this appearance was not found in the intestines, which were perfectly healthy. The liver, spleen, and kidneys were healthy, but slightly gorged with dark colored blood. The other organs of the body were in a healthy condition. A great variety of morbid appearances are described by different authors as being peculiar to cases of poisoning by prussic acid. The limbs are frequently ridged, and the head, face, and lips, of a violet color. The glistening and staring appearance of the eyes is not a constant phenomenon, and the lungs are also frequently congested. Many of these appearances are, no doubt, due to the convulsions and other symptoms caused by the poison, and not to the immediate action of the poison itself. The postmortem appearances probably depend, in a great degree, upon the quantity of acid taken, the time which elapses before death takes place, and the occurrence or non-occurrence of convulsions.

It is not the object of this paper to enter upon a discussion regarding the morbid appearance in cases of death from prussic acid; but should opportunity be offered me for future investigation, I shall endeavor to furnish farther information on this highly important and interesting subject.

5 *Bond Street.*

Poisonous effects of Soda Water from Copper Fountains and Lead Pipes.

By R. Ogden Doremus, M. D.

Having, within a few days, had several friends relate their sudden illness after taking a single glass of soda water, and suspecting some poisonous impregnation to be the cause, I was induced to obtain several gallons of this favorite beverage, from different parts of the city, and to submit them to a chemical examination.

The substance which first attracted attention was *copper*.

This was very abundant in soda water obtained from several obscure shops, where it was presumed the traffic was limited, and consequently the acid water remained longer in the copper condensers. It was so evident that, on boiling off the excess of carbonic acid gas, a green scum made its appearance, which, on further evaporation, settled. This was carbonate of copper, previously held in solution by the carbonic acid.

The amount of metallic copper in a quart was one grain and a half!

Soda water obtained from the same establishment on different days, was found to contain varying amounts of the poisonous carbonate.

The source of this copper, and the cause of these differences, may be accounted for in several ways.

The copper condensers purport to be tinned internally; but where they have been in use a long time, the tin, by chemical and mechanical action, has been removed, at least in part; thus exposing a surface of copper to the corrosive action of the carbonic acid, aided by sulphuric acid, which is occasionally found in the soda water.

Although the carbonate of copper is insoluble in *pure* water, it is capable of being held in solution in water highly charged with carbonic acid gas; for the soda water which yields this green scum after discharging the gas, is clear and colorless previous to the operation.

The soda water drawn shortly after charging the condenser, would necessarily yield less copper on analysis, than that obtained from the same fount after having several days to exert its corrosive influence. Again, the tinning (for all are professedly thus lined) would be more perfect in some than in others—dependent not only on the length of time the condensers had been used, but also on the completeness of the original coating. I have been informed that, in order to facilitate the flow of the tin, soft solder is at times resorted to, or the copper is washed with a salt of mercury. Under these circumstances, the chemical and electrical action would be rather complicated, and the soda water possessed of remarkable *medicinal virtues.*

The second poisonous compound which, from its abundance, demanded investigation, was a white precipitate, the carbonate of lead. This was found, to a greater or less amount, in most of the waters examined.

In the quart whence the grain and a half of copper was obtained, 0.65 of a grain of metallic lead was found.

The chief source of this impregnation is the lead pipe used in many fountains to convey the carbonated water from the condensers to the jet.

It is an established fact, that the free carbonic acid found in spring waters, is capable of dissolving or facilitating the solution of many of the salts of lead, such as are found encrusting lead-pipes which have been used for conducting said waters.

By the investigations of Dr. Ellet, published in this city last year, it was clearly shown that even the trivial amount of carbonic acid found in Croton water, is sufficient to act upon the lead-pipes.

This lead may be readily found in any kettle which has been used for boiling the Croton water passed through a lead-pipe, by adding a little acetic acid to it. The acetate of lead will respond to sulphuretted hydrogen, by assuming a black tint (the sulphuret of lead), or a yellow tint with the iodide of potassium, etc.

Since carbonic acid is possessed of such solvent powers, soda water, which is surcharged with it, must become poisonously contaminated by contact with lead, either in the pipes or the soldering; and as much of the tin of commerce is alloyed with lead, even this metal, to which we look for protection, may be another source of evil.

Many are impressed with the belief that the first few glasses may be impregnated with lead to an injurious extent; and hence the custom, in the more respectable establishments, of discarding the soda water which is first drawn, and has lain in the tube over night.

Wherever lead pipes are used to conduct the water to the jet, and especially where, in order to secure a cool draught, from thirty to sixty feet of lead pipe are coiled in a tank and covered with ice, the highly acid liquid must necessarily dissolve the metal, and communicate the poison to all contained within the condenser.

These remarks are not applicable to pipes of pure tin, or of lead properly coated with tin.

I have examined the soda water obtained from a manufactory where it is bottled, but could discover neither copper nor lead.

The effervescent liquid which is at times "palmed off" upon the public, made by forcing atmospheric air into water (most truly, "aërated water"), would, from the very want of the carbonic acid, be nearly free from these contaminations.

It might be asked, "If these poisonous bodies exist in soda water, why are not the effects more commonly known?" I would reply, they are more generally known than is supposed.

Since commencing these investigations, I have learned from several medical friends, that a coppery taste, violent vomiting, colic pains, purging, etc., have not been uncommon results from such draughts; and most with whom I have conversed, have experienced these effects personally.

In Dr. Mitchell's Therapeutics, mention is made that soda water from old copper fountains is strongly marked with the copper taste.

My assistant informs me that five years since, while in a drug store, he observed that vomiting and other symptoms of poisoning by copper followed frequently after drinking soda water, and that many thought it was cholera; and after being similarly affected himself, he tested the water and found copper.

I am informed by a resident of St. Louis, that while the cholera prevailed, most persons abandoned the use of soda water; it was a common remark, "Mr. —— took a glass of soda water, and was immediately attacked with cholera."

Probably the syrups which are the usual accompaniments of the soda draught, act in many cases as an antidote; for although the efficacy of sugar in this respect, as originally proposed by Duval, was denied by Orfila, it has lately been reässerted by Postel.

I regret that, for want of time, I have not been able to complete other experiments on this subject; yet, as I am convinced that in many cases this poisoned soda water has proved the exciting cause of cholera in those predisposed to this disease, and in others that it has by its inherent properties been injurious to health or destructive to life; and as at this time the cholera question is again agitating the public mind, I have thought it advisable to relate the results of this partial investigation.

With the knowledge of these facts, we may conclude that although soda water may be retained in a *well-tinned* copper condenser, and discharged through a *thoroughly tinned* lead pipe, without poisonous impregnation; yet, as any imperfection in the tinning of either, or long or careless usage, may expose the copper or the lead (or both) to the solvent powers of this carbonic acid, and thus render the beverage dangerous, therefore these vessels should be discarded or only permitted in the hands of trustworthy persons.

Condensers of stone, of iron, or of the purest block tin supported by iron bands, or of gutta percha, aided in a similar manner, would be free from poisonous impregnation. Conducting pipes of these latter materials are likewise unobjectionable.

In another paper I shall present the results of more extended investigations, and shall be indebted to any physicians or pharmaceutists who feel disposed to assist in this work of common interest, by favoring me with reports of cases, or samples of suspected liquid for analysis. If those engaged in the fabrication of this article would afford an opportunity of examining some of the old soda fountains, it might aid materially, and perhaps result in the suggestion of better methods of protection.

PART II.—REVIEWS AND BIBLIOGRAPHY.

On rheumatism, rheumatic gout, and sciatica; their pathology, symptoms, and treatment. By HENRY W. FULLER, M. D., CANTAB. Fellow of the Royal College of Physicians, London; Assistant Physician to St. George's Hospital, &c., &c. New York: Samuel S. and William Wood, 1854. pp. 322. *From the publishers.*

The remark with which Dr. Fuller commences this introduction to his work will be acknowledged to be true. It is, that "few diseases are more deserving of attention than that common, painful, and obstinate malady which has been recognized under the title of rheumatism." It does, indeed, seem strange that while it has been so long recognized, and occurs in all latitudes and countries, and in all circumstances in life; while it is more or less frequently met by all physicians, too often leaving as its consequent those lesions of the heart which render life a burden and hasten its end,—it seems strange that there is so little known, with certainty, of its pathology, and that there is so much discrepancy in the modes of treatment proposed by the most intelligent authors, and adopted by the most observing practitioners. It is for these reasons that we hail with especial pleasure Dr. Fuller's work, based as it is on his own investigation and study, not on the routine course of others.

As to the cause of the disease, our author thinks that it is not to be attributed to cold, either general or local, either alone or combined with moisture, but to a certain *materies morbi* in the blood; which, following Dr. Prout, he is inclined to believe to be lactic acid. Checked or deficient perspiration, exposure to cold or to malarious exhalations, indigestion and imperfect assimilation, defective or perverted uterine action, the ill performance of the renal functions, plethora, and debility, may each and all be, as has been alleged, the cause of the disease; but it is only through each of them producing in the blood this same morbific substance. They are the remote causes, this the immediate agent, in developing the phenomena of rheumatism. It is frankly admitted that "the poison which gives rise to rheumatism has not hitherto received actual demonstration;" but the reasons are assigned, which render it probable that it is lactic acid.

If this is admitted to be the poison which produces rheumatism, but one vehicle for its conveyance from one part of the body to another can be suggested, namely,—the blood. It is to this that our author attributes the phenomena of metastasis; not that the inflammation is removed from one place to another, but that the morbific matter elects, so to speak, now one now another place for its deposit, of which inflammation is the result. But in order that the author's views may not be misunderstood, we quote his own synopsis of them.

> "Thus it would appear that cold, and other external agencies, are only predisposing and exciting causes of rheumatism; and that the primary, proximate, or essential cause of the disease, is the presence of a morbid matter in the blood, generated in the system as the product of a peculiar form of mal-assimilation—of vicious metamorphic action. This poison it is which excites the fever, and produces all the pains and local inflammations which are often found associated in an attack of rheumatism. If the rheumatic virus be present in small quantity only, it may cause little more than wandering pains in the limbs, and may scarcely induce any perceptible fever; whilst, if it exist in larger quantities, it rarely fails to cause febrile disturbance, and to excite inflammation in various parts of the body. In that respect, however, its effects are found to vary, in different cases. Sometimes, though it cause great febrile excitement, its local agency may be confined to the production of external articular inflammation; at others it may fail to produce arthritis, but may give rise to acute inflammation of the heart; and at others, again, carditis may be one only out of several internal inflammations which it sets up coincidently with extensive articular mischief. Moreover, there appear good grounds for believing that, as in some cases, it gives rise to excessive febrile disturbance for days prior to the accession of articular inflammation, and repeatedly without exciting inflammation of the heart, so in certain instances it may excite the peculiar train of symptoms whereby rheumatic *fever* is characterized, without producing, from first to last, the slightest concurrent local inflammation, whether of the joints or of the heart, or any other organ." p. 37.

Our author not only admits that this disease is hereditary, but insists upon its being more frequently so than some other diseases of which this is considered to be a marked characteristic. Thus, the consumption hospital returns show that there was hereditary influence in a little more than twenty-four per cent. of the cases admitted to that institution, while thirteen per cent. of the cases of insanity are said to have this origin. Rheumatism gave, under the author's observation at St. George's Hospital, nearly twenty-nine per cent. as hereditary, out of two hundred and forty-six patients laboring under it; while M. Chomel, at the Hôtel Dieu, found this influence in half the cases in that institution.

As to the ages within which acute rheumatism occurs, our author places the ordinary limits at from fifteen to fifty. In one of his tables, however, he mentions a case in which it occurred at two years and nine months, while we have ourself known an instance in which acute rheumatism occurred in a man aged ninety years. Still, our author's limits are undoubtedly correct as a general statement. An hereditary origin, has, however, a much greater proportionate influence in the cases occurring under fifteen. Thus, one out of every 1.9 patients under this age gave evidence of hereditary derivation of it; while of those over thirty, only one in 6.6 showed the same influence.

Concerning the seat of rheumatism, Dr. Fuller agrees with most pathologists, that its preference is for the white fibrous tissues; but the "conjectural cause" of this selection is worthy of note, as being at least an additional one to the many theories before advanced, though we confess we are not convinced of its truth:

> "But it is worthy of note that the textures most commonly implicated in rheumatism, are all examples of the albuminous and gelatinous tissues, from the decomposition of which, in the wear and tear of the body, are formed those secondary organic compounds, the lithic and lactic acids, with which gout and rheumatism are intimately connected. And as it is but consistent with our knowledge respecting the processes of nutrition and assimilation, to suppose that each tissue selects from the blood and appropriates to itself, such matters as correspond with it in chemical constitution, we may readily conceive that some peculiar attraction may be exerted by the fibrous and fibro-serous textures for compounds, such as the lithic and lactic acids, to which they bear so strong an affinity." pp. 51, 52.

The author's division of the disease is into—1st. Acute rheumatism, or rheumatic fever. 2d. Rheumatic gout. 3d. Chronic rheumatism. 4th. Neuralgic rheumatism.

On these various divisions it is unnecessary to dwell, their basis being the same as that usually adopted. The duration of acute rheumatism is a question of very great interest, and one prolific of discussion. Dr. Fuller has taken, apparently, great pains to inform himself on this point; and for the result he finds that from four to five weeks is its duration, "under *ordinary* methods of treatment," when no internal affection accompanies it. He believes, however, that "the average duration of an uncomplicated attack may be reduced, by judicious treatment, from a month or five weeks to ten days or a fortnight." His plan of treatment becomes, therefore, of great interest; and we give it at some length, omitting, of necessity, the discussion of the various modes which have been suggested by others. It may seem almost incredible that a writer on rheumatism should not bring forward some new or old remedy as almost a specific for the disease. Our author, it will be seen, is in a good sense eclectic, using old remedies, but seeking a more discriminating mode of selecting from among them:—

> "If the materies morbi be, indeed, an acid, or an acidulous compound—if it be lactic acid, for instance, as there are cogent reasons for believing it to be—then will its neutralization be effected, its irritative property probably diminished, and its elimination promoted by a free exhibition of alkalies and neutral salts; and these objects may be further advanced by the administration of purgatives, sudorifics, and diuretics, to act upon the various excretions. With the view of checking the further formation of the poison,

and of restoring that healthy state of assimilation, which, at the outset of the disease, is interrupted or arrested, colchicum, mercurials, and alteratives may be given, and, as the febrile symptoms begin to subside, may be combined with or followed by the use of quinine, or some other tonic; which, at certain stages of the complaint, may be better calculated to improve the function of assimilation. In allaying the general irritability of the system, and more particularly the irritability of the heart, opium, conium, and nitre, together with the cautious administration of antimony, are remedies of the greatest value; and, if vascular action be excessive, and excretion sluggish, blood-letting may be sometimes beneficially employed." pp. 73, 74.

We do not remember to have seen any where so good a rationale for the treatment of this disease; and the adoption of these principles must, we are persuaded, relieve many patients from the empirical or specific routines which are only too common.

External applications, as well as internal remedies, are resorted to; leeches and blisters rarely, but warm fomentations frequently. A decided preference is given by the author to a mixed alkaline and opiate solution for making the fomentations; his mode being to use potassæ carb., ℥ i.; liq. opii sedativi, ʒ vi.; aquæ rosæ, ℥ ix., or the carbonate of potash in combination with decoction of poppies. Thin flannel, soaked in one of these mixtures, is to be wrapped about the joint, and over this gutta percha is to be placed. In lemon juice Dr. Fuller has no confidence, and only uses it to aid in making an agreeable effervescing draught.

Rheumatic gout "differs from rheumatism, in the frequency of its attacks, and the increase exhibited at each recurrence in the severity and obstinacy of its symptoms; in invading the small joints in preference to the larger; in being more stationary, and often causing thickening and permanent enlargement; in rarely involving the heart or its membranes; and in sometimes producing desquamation of the skin." p. 260. It differs as much from true gout, and sometimes accompanies or follows both these diseases. The diagnosis is, therefore, sometimes made with difficulty, though in general it is not so. The remedies employed by Dr. F. are "alkalies, colchicum, small doses of antimony, and alterative doses of blue pill or calomel, with an occasional purgative, topical applications to the joints, and strict attention to diet." This bare enumeration, all that our limits allow, does no justice to the author's statement of his principles of treatment, which will well repay careful study. It is in this form of the disease that the use of the water of warm and sulphurous springs is beneficial.

Chronic rheumatism attacking, as it does, chiefly the muscles, may follow the acute form of the disease, or may be idiopathic. Lumbago, "stiff neck," and intercostal rheumatism, are some of its more common forms. Nodes often result from a periosteal rheumatism, when neither mercury or syphilis have tainted the constitution.

To the author's treatment of this form of the disease, varied as it is, according to the seat of the inflammation and the general condition of the patient, a synopsis would do too much injustice to allow us to give one; for almost every page is rich with practical suggestions as to the form of treatment to be in any case adopted; and they abound in excellent formulas for prescribing the remedies.

About one hundred pages of the book are devoted to the diseases of the heart which are induced by rheumatism, and on this portion it was our intention to dwell. But the subject has so grown under our hand, and so increases, that it is necessary either to do injustice to the subject or to Dr. Fuller, to neither of which are we inclined. A topic of so much interest, and which is now being so ably discussed in our own country, as well as abroad, cannot be hastily passed over, if it is at all touched upon; and we are therefore compelled, for the present at least, to put it to one side.

Our purpose has been, not to give such a synopsis of the work as would preclude the necessity of a careful study of it; but, rather, to show as briefly as possible, that it contained matter of unusual interest to the profession, and concerning a disease more or less frequently occurring in every physician's practice. In conclusion, we may add that the Messrs. Wood have done their part handsomely, in republishing the volume; the type, paper, and binding, all being good and agreeable to the eye. These, as well as the contents of a volume, are matters of decided importance; and we are glad to say, that, in this instance, all accord.

Varicose Veins and Varicose Ulcers. By Thomas William Nunn, Surgeon to the Westminster Dispensary, and Demonstrator of Anatomy at the Middlesex Hospital, London. Published by Henry Renshaw, Strand, 1852.

In the first section of this interesting essay, the author treats of certain points connected with the anatomy and function of the superficial veins, dividing the subcutaneous veins into two sets, the supplemental and integumental, considering the former subservient to the latter, and both easily discernible from each other by their anatomical structure, size, direction, etc. The writer assumes that the supplementary set of the subcutaneous veins allows a free passage to the returning blood, while the venæ comites are undergoing compression by the contracting muscles of the limb, thus acting as a safeguard against the contingency of congestion of the active organs of locomotion; and proves this successfully by practical illustrations. The second section comprises, the pathology of varicose veins, and the changes in the skin dependent on it. The author classifies the varieties in I. simple dilatation of the vein; II. dilatation, accompanied with attenuation of the walls; III. dilatation, accompanied by thickening and hardening of the walls of the vein.

In enumerating the general results of the different forms of varicosities, the author ventures to differ from Sir Benjamin Brodie, who considers one form of œdema to be the result of inflammatory action in the cellular membrane, while the author describes the tumefaction as indicating an active sweating out of fluid from the capillaries; "from the vast extent of surface presented by the integumental plexus, one has no difficulty of accounting for any amount of infiltration."

The third section is devoted to the treatment of varicose veins and varicose ulcers. The causes producing varicosities, the author states, may be derived from one of two sources: (*a.*) the momentum the blood has communicated to it through the arteries, reacting upon the walls of the vessels, its transit being impeded; (*b.*) the property a column of fluid has of exerting a force proportionate to its perpendicular height. According to this view, the writer divides the cases of varicose veins into two classes: the first, in which impediment in the transit of blood exists, and constitutes the exciting cause; the second, in which the disease is produced or continued by hydrostatic pressure. The author points out the necessity of preserving a free route through the superficial abdominal veins, especially the epigastric, when a gravid uterus or other abdominal tumor is the impediment. In the second form, the author recommends the application of pads. The author says, p. 52, "If the walls of the vein be pressed against each other, no blood can pass either in an upward or downward direction, and the vein is as completely closed as though a ligature had been placed around it. By the application of pads all the advantages of the radical cure may be obtained, without any of the danger attendant on that proceeding. The pads should be made of soft elastic wood, and the compressing band must be between three and four inches broad." One pad placed below the knee usually suffices; sometimes, however, the number of pads must be increased. Theoretically we should have doubted, somewhat, the success of such a treatment, had we not been an eye-witness of its practical advantage in the reported cases.

G.

PART III.—CHRONICLE OF MEDICAL PROGRESS.

[The abstracts and translations found under this title are made expressly for the AMERICAN MEDICAL MONTHLY.]

PATHOLOGY.

On the condition and appearance of the eyes in diseases of other parts. By Prof. C. G. TH. RUETE.

AFTER some introductory remarks on the value of eye-symptoms for diagnosis and prognosis, the author proceeds to the consideration of the condition of the eyes in particular groups of diseases.

1. *Dyscrasiæ.*—In these are especially noticeable, alterations of color in the eyelids, the conjunctiva, the aqueous humor and the crystalline lens, which, nevertheless, rarely indicate a mere abnormal composition of blood, but rather defects of nutrition, circulation, and innervation. In chlorosis, anæmia, hydræmia, and similar conditions of the blood, we find bluish or whitish rings about the inferior eyelids, paleness of the conjunctiva and lachrymal caruncle, isolated bluish vessels of the conjunctiva, dull look, and frequently swollen eyelids. Venosity in its higher degrees produces blue rings about the eyes, and reddish-blue coloration of the sclerotica; the latter proceeds from the delicacy of the sclerotica, which permits the deep parts of the eye to shine through. This is also found in some diseases of nutrition; in children it is not a morbid symptom. In typhus petechialis and putridus, besides the reddish-blue color of the eyelids, often appear, also, as in scorbutus and morbus Werlhofii [purpura hemorrhagica], bluish spots (ecchymoses) upon the upper eyelids, and reddish spots and lines beneath the discolored, dirty conjunctiva, first at the border of the cornea, and extend thence over the whole conjunctiva bulbi. When the coloring matter of the bile passes into the blood in icterus, yellow fever, &c., the sclerotica, and in higher degree also the aqueous humor, are the first to appear yellow, and corresponding with this an alteration of the color of the iris; *e. g.* a previously blue iris appears greenish. Moreover, a pale yellow color of the conjunctiva is found in old persons, and even in young individuals, when many and somewhat varicose veins, or at times little masses of fat, penetrate this membrane. This latter coloration appears especially in a direct transverse line, whilst the icteric is first observed at the periphery of the globe. The melanotic cacæmia changes the extravasations of blood existing at the time beneath the conjunctiva sometimes into yellow, dark brown, even black, often somewhat marked, melanotic spots, which almost

always indicate the existence of similar alterations in other organs. The alteration of the eyes in other dyscrasic diseases, as diabetes, uræmia, lead colic, menostasia, hemorrhoids, scrofulosis, scirrhus, &c. are only derived from the relaxation of the tissues in consequence of disturbances of nutrition, circulation, secretion, and innervation.

2. *Disturbances of the circulation*, are expressed in the eye by hyperæmia, stasis, or anæmia. Active hyperæmia of the eye, by which the vessels of the eyelids and conjunctiva become turgescent and thus determine a red coloration with increased secretion of tears and increased lustre of the eye, indicates increased action of the heart, or irritation of the nerves of the head and eye. The former is induced by psychical disturbances, inflammations, fever, cardiac hypertrophy; the latter by inflammations of the brain, of the throat, of the eyes, and neuralgia of the trigeminus. Special signs for special diseases in reference to color and vascular distribution are *not* found, except that in bilious fevers a yellowish coloration is observed. Hyperæmia indicates merely determination of blood to the head; and the special form and distribution of the vessels in particular inflammations of the eye do not depend upon the exciting causes, but upon the anatomical structure of the parts concerned. Passive hyperæmia of the eyes and their neighboring parts arises in consequence of obstructed reflux of the blood, or of relaxation of the vascular walls on account of debility of the whole body or of the nerves concerned. We see, then, the vessels of the temporal region, of the eyelids, and of the conjunctiva, in different parts thickened, varicose, livid, often with extravasations of blood beneath the conjunctiva, œdematous swelling of the tissues, aversion to light, and other disturbances of vision. The abnormities of the lesser circulation, induced by diseases of the trachea, the bronchii, the lungs and their envelopes, of the heart, of the abdomen, by swellings in the proximity of the great veins of the neck, obstruct the reflux of blood from the head. Typhus fever, and all chronic diseases which impair nutrition, scrofula, gout, tuberculosis, rachitis, chlorosis, scirrhus, retard the peripheric circulation, and induce an over-fulness of the small vessels, which lie, like those of the conjunctiva and lids, in easily distensible tissues. In typhous diseases, and in central and peripheric torpor of the nerves of the eye, hyperæmia is induced by weakened innervation. Nevertheless, the causes of hyperæmia must also be inferred from other signs, and this alone affords no pathognomonic sign. Anæmia of the eyes owes its origin to obliteration of the vessels in consequence of chronic inflammations, or of constriction of the same from debility of the cerebral nerves, with simultaneous increased power of resistance of the vasomotory nerves. If the anæmia of the eyes is accompanied by anæmia of the brain, with obscurity of vision, giddiness, fainting, paleness of the face, especially when the long-confined patient gets up again, we must infer a general anæmia, or debility of the

muscular power of the heart, which either becomes diminished by wasting of the body in chronic diseases, or suddenly from psychical and other depressing influences.

3. *Anomalies of secretion and resorption* in the eye, are the result either of abnormal composition of blood, or disturbed circulation and innervation. The qualitative alterations of the fluids of the eye; the presence of bile, sugar, urine, calcareous salts in the tears, in icterus, diabetes, uræmia, gout; the want of alkalescence of the aqueous humor, in rheumatism, scrofulosis, &c.,—are not yet sufficiently determined to become considered as diagnostic signs. We can, nevertheless, conclude upon a perverse composition of blood, from the progressing development of soft cataract, since the nutritive fluid of the lens, of the aqueous and vitreous humors, are secreted without the intervention of glands directly from the blood, the composition of which is thus indirectly manifested in the crystalline lens. The quantitative alterations afford more definite signs, the causes of which are circulatory disturbances. Hyperæmia produces an increased, mostly watery secretion, therefore, in nervous excitation from psychical or other influences, profuse secretion of tears and mucus, even œdema of the lids. Removal of the moderating nervous influence either prevents the secretion, or in consequence of relaxation of the vascular walls, permits the blood-plasma, or even the blood itself to exude; the eye assumes a venous coloration, and is covered with tears, and tough, often blood-colored mucus. Hence comes a wild or vacant expression of countenance, slight dilatation of the pupil, œdema of the half-closed dependent lids. In the highest degree of the disease, even colliquation of the eye follows. These phenomena are found in debilitated states of the trigeminus which do not affect simultaneously the sympathetic, in typhous, putrid fevers, cerebral inflammations, &c., in the last stages of chronic diseases, with long-continuing agony. Œdema of the eyelids, especially observable in the morning, and yielding at evening to swelling of the feet, shows itself often in chlorosis, hydræmia, and in all the conditions which determine cutaneous dropsy. Delicate blondines not seldom have œdema of the lids without inflammation of the circumjacent parts, after agitation of mind, colds, and similar affections. Dryness of the eye without previous ophthalmia, in consequence of obstructed secretion of the lachrymal and conjunctival glands, proceeds from a debilitated condition of the cerebral nerves. We find it, *e. g.* in debility of the trigeminus, after fatigues of mind, as a precursor of insanity.

4. *Disturbances of nutrition* are not without influence upon the habitus of the eye; but they cannot by this be recognized according to their specific nature, whilst their consequences, general plethora, anæmia, fatty disease, emaciation, collapse, laxness of the tissues, are accompanied by very different signs in the eye. The effects of the first have been already mentioned:

immoderate general deposition of fat becomes observable, also, in the orbit of the eye and the lids; the globe becomes somewhat prominent, nevertheless, being more than usually covered by the relaxed eyelids, the space between the latter appears diminished. On the other hand, if the orbit becomes narrowed by local swellings, when the anterior lobes of the brain are enlarged, or chronic hydrocephalus occurs, the ocular globes become more prominent, without being covered by the thin, somewhat livid lids. Moreover, the wild or expressionless appearance in cerebral diseases, the intelligent look in rachitis and pædatrophy, the projection of the frontal bone, &c., furnish here sufficient evidences for diagnosis. In gradual emaciation, the fat of the orbit, also, disappears in due time; the globes of the eye retreat, but appear larger on account of simultaneous emaciation of the eyelids, the expression is lax, but cheerful and intelligent when there is no cerebral lesion; the lids, pale at first, become somewhat livid, and when closed permit the iris to shine through as a ring. The condition of the conjunctiva is the same as in anæmia; through it and the attenuated sclerotica we can see the dark background of the eye, presenting a blue appearance. The circumference of the eye shows, especially upon the lower lid, the livid ring which proceeds from the thinness and collapse of the tissues, through which hyperæmic veins become visible. If the eyes fall quickly back into their orbits, if they are surrounded with a reddish-brown, violet, or livid ring, the color of which extends, also, to the upper eyelids, this indicates, especially when the features are stiff and immovable, an important sinking of the nervous power and collapse of the tissues, in consequence of loss of fluids, internal hemorrhage, and decomposition of the fluids. We observe this alteration in typhus and putrid fevers, poisonings with acrid poisons, cholera asphyxia, and in the agony after most chronic diseases; it is a sign of approaching death.

5. The *innervation* of the eye yields to the most frequent disturbances, and furnishes the most important signs, especially in reference to *prognosis*. Uniform, fair, yellowish-red coloration; moderate turgor, and neither too slow nor too swift movement of the eyelids; soft redness of the conjunctiva palpebrarum, and caruncula lachrymalis; moderate tension, and mild lustre of the globe; single, delicate red vessels playing in the white of the sclerotic conjunctiva; in adults a white, in young subjects a uniform bluish white, in the old a yellowish sclerotica; a certain neither too slow nor too quick changing of the convergence of the axes of vision, which correspond to the object seen; and a dilatation and contraction of the pupil conformable to the degree of light,—these are the signs of an undisturbed innervation. Abnormities are manifested in lesions of the motory nerves by spasm and paralysis, in those of the sensitive nerves and of nutrition, by hyperæsthesiæ and anæsthesiæ.

a. Spastic phenomena in the eye, which do not depend upon idiopathic affections of its different parts, point to an idiopathic or consensual lesion of the brain, without, however, designating more exactly its nature. Trembling and blinking of the eyelids, with a wandering, unsteady look, are found in cerebral irritation, therefore, in disquiet of mind, anxiety, shame, perplexity; also in erethistic, inflammatory fevers, at the commencement of cerebral inflammation, of acute hydrocephalus, delirium tremens, chorea, eclampsia, and epilepsy. A wild look, with quick motions, and parallel direction of the axes of vision, without fixidity upon objects of vision, is a higher degree of the wandering look. It is sometimes connected with fiery redness, sometimes with paleness of the face, and is often a precursor of cerebral inflammation and mania, often an indication of sinking of the forces, loss of consciousness and approach of death. A staring look, immobility of the parallel axes of vision, wide openness of the eyelids, and dilatation of the pupils are found when the thoughts of the patient are directed to one point, in psychical diseases, in corporeal lesions in which the brain is affected, as in violent pains, typhus fever, gastro-malacia, &c. A sad, earnest look, a slight degree of the staring, indicates a mental or corporeal affection with consciousness, and is especially observed in diseases which seriously affect the organism without weakening the mental powers, *e. g.* in scirrhus ventriculi, diseases of the liver and spleen, secondary syphilis, chronic diseases of the lungs and throat. In these the corrugators are contracted, the eyelids half closed, the axes of vision move slowly from one object to another and fall easily into the staring look. Another form of the staring look is observed in severe affections of the brain, with loss of consciousness; the eyelids are wide open, and the globe prominent or sunken, the first from tension of the oblique, the latter from contraction of the recti muscles. This phenomenon is not to be considered an index to the nature of the disease. The same cause occasions the eyes to become distorted. Although in encephalitis, acute hydrocephalus, epilepsy, eclampsia, hysteria, apoplexy, &c. they are mostly turned upwards; yet in the same diseases they also take other directions. In psychical diseases, also, the direction of the eyes shows only in general a cerebral affection. The searching look of the insane has not at all its apparent significance; it merely reaches the surface, and does not penetrate the thought of the person seen, and very soon loses this appearance itself. Herein are the insane very different from an angry man of sound mind. Many let their eyes fall upon objects without perceiving them, often even the axes of vision intersect each other before they reach these objects; others direct their eyes where nothing is to be seen, mostly because they see spectra. At times the eyes are continually moved and distorted. Most patients cannot bear our glance, they cast down their eyes or turn them away. The eyes have often a peculiar, glassy appearance, and are then more or less staring, which indicates the beginning of a severe attack. Finally, in the more violent attacks the eyes stand with extinguished look, and are then a sign of beginning idiocy.

b. As to the diagnostic importance of the eyes in *paresis* and *paralysis*, we can often draw a conclusion, in reference to the seat of the difficulty, from the paralysed muscles themselves. Upon this point the author lays down the following propositions: 1. The nearer the torpor to the ends of the particular nervous filaments, the more ground have we for considering the cause peripheric. 2. When the paralysis affects all branches of a nervous trunk, the cause lies in that trunk before its division into the peripheric branches. 3. When, besides all the branches of one nerve, neighboring nerves are also paralyzed, the cause is to be sought in the central organ itself, or near the place where the first nerve leaves the central organ. 4. When nerves corresponding to one another are disturbed in their function upon both sides of the body, it is supposed that the seat of the evil may be in the central organ; since, however, the distribution of the nervous roots in their central organ, and their connection with the cerebral fibres is yet little known, we must be cautious in adopting this opinion. A dull look only indicates diminished innervation, and is found when the eyelids are somewhat dependent, or even somewhat œdematous, and move but slowly; when the axes of vision fall, indeed, upon the fixed object, but soon deviate from it and move sluggishly and without energy; and when the globe itself takes on a dull lustre. If an inattentive mien is accompanied by signs of sadness or pain, in the first case the axes of vision are turned downwards, in the latter downwards and laterally. We find this in the beginning of typhus and putrid fevers, of chronic cerebral diseases, of hydrocephalus, of cerebral softening, in profuse fluid losses, in strong, especially depressing emotions of mind, in the later stages of severe inflammatory diseases, chronic diseases of the liver and spleen, lungs, and kidneys. It is not, however, a key to any definite disease. The extinguished look, which is only a higher degree of the dull look, is a sign of very great cerebral torpor, and of great danger. The eyelids are then, even in sleep, half closed, the upper one depends loosely, especially towards the outer angle, and moves but seldom and slowly. The eye is dirty, and when the resorptive power of the lachrymal puncta is paralyzed, dirty tears run from the outer corner of the eye, the conjunctiva is traversed by dark veins, the pupil is somewhat dilated and almost insensible to the irritation of light, the axes of vision are parallel, and the movements of the eyes, which are never fixed on one object, are slow. If these phenomena are more perceptible in one eye than the other, the same side of the brain is the special seat of lesion. A dull look during waking, which approaches the extinguished look, and is connected in sleep with distortion of the eyes upwards, even with divergence of the axes of vision, indicates always a severe cerebral lesion, which either proceeds from exudation in the sinus of the brain, or from great weakness in putrid and typhus fevers, cholera, asphyxia, or narcotic poisonings. Squinting dependent on torpor, oblique vision, and anæsthesia of particular parts of one or both eyes, are to be judged according to the above-stated propositions, and indicate, when a peripheric lesion of the nerves is not to be detected, that the difficulty is limited to a small part of the brain, which can often be exactly determined. Generally, the cause is a circumscribed exudation or extravasation. If, however, the symptoms are intermittent, the difficulty is of a spasmodic character, and arises from a temporary irritation.

c. In *hyperæsthesia* of the optic nerves we observe sometimes aversion to light, with or without dark or colored or shining appearances before the eyes; with reflex or spasmodic contractions of the muscles of the forehead, of the eyebrows, of the eyelids, of the globe, of the iris, with profuse secretion of tears; sometimes pressing pains in the supra-orbital region and in the globe, with aversion to light and nausea; sometimes neuralgic pains in the course of the twigs of the optic branch of the trigeminus, upon which follow secondary lesions of the muscles, of the blood-vessels, and of the secretory organs of the eye. Hyperæsthesia indicates a cerebral lesion, the cause of which, frequently, as in epilepsy, hysteria, and other diseases of the brain, remains fully concealed, but which is not seldom connected with other abnormities, as in gout, hemorrhoid, fluid losses, &c.; finally, also, with congestions and inflammations, e. g. hydrophobia, encephalitis, acute hydrocephalus, synochal, erethistic, and typhus fevers. Since the hyperæsthesiæ frequently arise from cerebral lesions, the expression of the old physicians is not wholly to be reproached, who declared it a precursor of a new attack of delirium.

d. Anæsthesia of the optic nerves, that is, total or partial abolition, either of the power of sense alone or of all the influences which are reflected upon the other parts from irritation of the nerves of sensation, produces in the eye the most various symptoms, according as it is complete or incomplete, and according as the seat of its cause is central or peripheric. The central anæsthesiæ, e. g. the amauroses, are either constant or intermitting. How the latter arise is not yet sufficiently known. The transient amauroses and amblyopiæ, which we often observe in anæmia and congestions, in fevers before the crisis, in intermittent fevers, in nervous or hysteric subjects, indicate, indeed, a cerebral lesion, but they afford no very unfavorable prognosis; if, however, they occur at the end of severe diseases, e. g. in phthisis, they always announce death. Anæsthesiæ, especially amauroses, which are developed in a short time, without having their foundation in alterations of the eye itself, are connected through chronic and acute diseases, often with disorganization of that portion of the brain which is in connection with the organ of vision, and are, at times, the first symptoms of this disorganization. Amauroses, without diseases of the eye or brain, except those arising in diseases of remote parts through consensus, do not occur.—*Schmidt's Jahrbücher*, 1854.

On Cystosarcoma of the Mammary Gland. By Prof. Schuh, of Vienna.

Parenchymatous cysts are very frequently developed in and about the mammary gland. The phenomena differ according to the kind of parenchyma, the period of the disease, and the size of the cysts. When no partial softness and fluctuation point to the presence of a cavity, and when the tumor is yet small, the form of disease and, much less, the nature of the parenchyma cannot at all be determined, and a calcareous fibroid, a simple glandular gelatinous tumor, an enchondroma, a schirrus, &c., cannot be distinguished, the one from the other.

A. *Non-malignant cystosarcoma.*

1. *Gelatinous cystosarcomata, or those rich in parenchyma*, are by far the most frequent cystosarcomata of the mammary gland, and, after fibrous cancer and medullary sarcoma, the most frequent spurious tissue of this region. The mass presents, in the beginning, the phenomena of the glandular gelatinous tumor; it is hard, somewhat uneven, of a roundish or bean shape, circumscribed, movable, but is attached more firmly by the side towards the gland, than by the other parts. Not unfrequently a pair of nodules are found near one another, or several in different parts of the mammary gland, which may, then, be considered as a characteristic phenomenon of this affection. I have also seen them upon both mammary glands, but of unequal development. They more frequently originate in the superior than in the inferior half of the organ. Only the smaller number of patients complain of pain, which arises spontaneously, resembles transient, penetrating lancinations, or is called forth by pressure or the motions of the arm. It appears to depend upon the traction of a nerve-fibre, which is placed in a state of tension by the capsule of the tumor. In young girls, especially, it becomes, at times, very tedious, extending itself even to the arm. The cysts are usually first recognized as such when the tumor has already reached the size of an egg, or larger, and especially from the pliability, elasticity, or real fluctuation, in one or more places. Deception is also here possible, because particular parts of the tissue may be much softer and elastic in a high degree, and thereby appear to fluctuate. The structure of *slow growth* usually assumes an irregular, nodulated form, and the common

covering takes its shape with the most projecting and softest parts. The increase in size, however, does not always take place slowly, so that in ten or twelve years the circumference scarcely exceeds that of a hen's egg; but often *extremely rapid*, so that the mass in two years equals the size of the head. The growth also, which has been for a long time moderate, may become suddenly very much accelerated, either through traumatic injury, through irritating local treatment, or without any appreciable cause. The more the cysts increase at the expense of the original parenchyma, the more rapid is the growth, and the more the cystosarcomata assume a roundish, abruptly conical, or irregularly spherical, form, with flattened arcs. The tissue of the mammary gland becomes in a short time supplanted. At the time of menstruation the turgescence is increased; tension, also, and even very lively pain may be felt, especially at night, which are dependent upon the tension and traction of the nerves of this region, especially when a very heavy tumor is not supported. The tumor always remains movable, and even when of monstrous size is not at all, or in a very slight manner, attached to the pectoral muscle. When a cyst is in communication with a milk-duct, from time to time, or once only as greater tension occurs, a yellowish fluid of an albuminous appearance, or a thinner one of the brown-red color of dissolved blood, is effused from the nipple, with diminution of the size of the tumor. When there is great volume, the skin covering the tumor has distended veins, at the most prominent points a bluish or red-brown color, or marbled when there is still greater distension, and always of abnormal growth at the darkest parts. According to circumstances, whether the large cysts lie more at the surface or deeper seated, and whether they are filled more with fluidity or exuberant growths, is the resistance very different; sometimes everywhere yielding and elastic, sometimes everywhere hard, sometimes both in different places. So, also, we sometimes find distinct, sometimes indistinct, sometimes no fluctuation. The axillary glands are never swollen.

Especial mention should be made of the rupture of the tumor, which takes place in rare cases when it has only reached the size of the fist, but in other cases not until the tumor has acquired a volume equal to that of the head. It occurs in cystosarcomata which have large cysts placed very superficially, or in which a very luxuriant growth of endophytes* takes place, penetrating the circumference of the cysts and the external envelop of cellular tissue, thus producing the form of laminated cystosarcomata. At a certain point of the skin a round opening is formed, out of which springs

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* The word rendered endophyte, throughout this article, is "Auswüchse," which is equivalent to our anglicised Latin word, *excrescence;* but excrescence conveys the idea of an exterior and centrifugal growth, while that in question is an interior and centripetal growth from the inner wall of a cyst.—TRANS.

the new structure, in the form of the segment of a small ball, with a dark red, uneven surface, which is covered partly with coagulated blood, with greenish yellow gangrenescent particles, with thread-like bands, and fine fringes. The tissue, under the influence of the irritation of air, develops its vegetative power so rapidly that at times the increase of the new growth, extremely rich in blood and often producing strong hæmorrhage, can be observed from hour to hour; and, in twenty-four hours, an enlargement of double its size. The denuded spot is then extremely sensitive to touch, the patients complain of a constant severe burning, the surrounding part is inflamed, and a very violent fever is developed, which, on account of the extending gangrene, may assume a very dangerous character. Highly interesting, and perhaps unique in its character, was a case of mine, in which were found four dazzling white bodies, recognizable, at first sight, as laminated masses of epidermis, seated in dimples upon the surface, and easily raised so as to present about the size of a bean.

Twice I have seen a natural cure through a fortunate enucleation of the foreign growth.

The quick growth, the coloration of the skin, the distension of the cutaneous veins, the rupture and rapid increase of the structure, might delude a less experienced surgeon with the idea of medullary sarcoma; but to this is opposed the great movability, the globular form, the want of glandular swelling in the axilla, in many cases, also, the yet blooming appearance of the individual, and in others the existence of evident signs of scrofulosis.

Anatomy.—The original structures out of which these cystosarcomata are developed, are, in all probability, of a twofold character, but I here place them together, since they both possess in life very similar properties, and have a similar course.

a. In a partly embryonal, partly developed cellular tissue of an areolar disposition, are contained distended, hollow structures, which are similar to the botryoid glands of the mucous membrane or to the elements of acinous glands, and filled with germs granulated, or inclosing a shining germinal corpuscle, more rarely cells. By treatment with a weak solution of potassa, they become more clearly visible, because the fibrinous intervening substance is paled. We see then in part single, roundish, hollow structures, without a canal; sometimes a real, grape-form body, whilst several of a long, flask-form shape incline towards one another, which may even be furnished with a short pedicle as an indication of an excretory duct. On account of tenderness, the wall of these structures is easily torn by pressure, so that the round germs or small cells appear in the field of vision in rounded heaps.

On account of the glandular structure, Abernethy calls it, *pancreatic sarcoma;* A. Cooper, *chronic tumor of the mammary gland*, and when it is painful, *irritable tumor of the mammary gland;* Velpeau, *fibrinous and acenoid tumor;* Birket and Lebert reckon it among the *lobular and partial hypertrophies* of the mammary gland, and assert that it is always covered by the *fascia propria* of the gland, and stands in connection by a pedicle with the tissue of the same. But although their distinguished labors have convinced me that these hollow structures are terminal vesicles of an incompletely developed glandular tissue; yet I cannot consider the tumors as hypertrophies, because I remember many cases in which no connection with the mammary gland existed, and the lobular new formation, covered with a capsule, could be separated merely with the fingers. Besides, I have found a similar texture in tumors in the proximity of the parotid, as well without as within the masseteric fascia of this gland. Finally, the alterations and metamorphoses occurring in these tumors, and hereafter to be described, are too great to be compatible with the idea of an hypertrophy. I remain, therefore, of my former opinion, that in the glandular gelatinous tumor (steatoma), under certain circumstances, to which belong especially the connection with or proximity to a glandular organ, glandular elements may be developed which are imperfect, and therefore abnormal, in their functions.

The less glandular elements are contained in the tumor, the more rapidly does it usually grow and become transformed into a cystosarcoma. The first thing which is here observed, is the distinct glandular appearance of a cut surface; the granular contents of the glandular portion disappear, and the hollow structures are transformed into cysts, which are either filled with fluidity or with endophytes. It is very remarkable that the enlarged hollow structures by their shoots enter at times into manifold connection with neighboring loculi of this kind; a fact which I have not hitherto observed through the microscope, but by eyesight, as soon as the loculi were developed beyond a microscopic mass. The germinating endophytes may be of the most varied form, and either bear in themselves traces of their origin from the hollow bulbs, or else grow as solid so-called papillous excrescences, fill up the original loculus, even penetrate the cyst-wall, and continue to increase independently at the expense of the primitive structure.

b. More rarely, I have found the second species, that is, tumors connected with the mammary gland, which contain no botryoid hollow structures, but roundish cysts, that, scarcely the size of a hemp-seed, are for the most part so filled with endophytes, that the surface of a section appears perfectly level, without furrows or crevices, and only scraping it with the knife brings to light the true character. They are, likewise, lobed upon the surface, covered with a thick envelope of cellular tissue, and consist of cysts seated thickly one within the other, exceeding in mass the fundamental substance. The intervening tissue is like that of the former species. The endophytes of the cysts are of the above-mentioned quality, and have a still greater inclination to break through their walls, and continue to grow independently. Besides, it is possible that the second species may be only a modification of the first, with the supposition that the separated glandular elements are very soon transformed into round cysts and produce endophytes.

The cystosarcomata proceeding from the above-described small tumors, exhibit very different forms, as may be inferred from what has already been said. In order to a more perfect understanding of them, we will describe the principal types of these remarkable formations.

1. *Aciniform, hollow structures, which, lined by laminated epithelium, preserve their form during growth, so that it appears as if the surrounding stratified mass grew in between their projections.*

A lobular tumor surrounded by a thick envelope, between the lobes of which sometimes a tender, sometimes a fascia-like cellular tissue penetrates, exhibits upon a section a partly smooth, partly granular surface. The mass is transparent, rich in gelatinous fluid, or else whitish and opaque. We see upon the surface of a section, sometimes scattered, sometimes in great number, little cleft-like loculi or round openings, which are surrounded by a yellowish, crisped border. A membrane exposed by means of a section through such a cleft, exhibits a hollow space, which passes into apophyses terminating in a point or again expanding at the end, between which juts in the surrounding tissue, in the form of conical or knob-like divisions. The border is laminated epithelium, then follows a structureless membrane, which bounds the gelatinoid mass consisting of amorphous and fibrous cellular tissue, in which an alveolus is prepared. At times we succeed in obtaining from this mass a microscopic preparation, in which may be seen the original clustered, hollow structure, with its tube-like pedicle. It incloses granular nuclei, which afterwards disappear.

2. *The acinous, hollow structures become during growth roundish or irregular, lined with a smooth membrane, and produce endophytes of a similar structure with the laminated mass. In them again are often developed clustered, hollow bodies and cleft-like loculi, with or without epithelium.*

In a young woman was found a very irregular, knotty tumor, somewhat larger than a hen's egg, in the right mammary gland, without the least prejudice to the latter; upon the left side, an abnormal growth had arisen about the same time, took on the same form, but grew in the last year so rapidly that it became larger than a child's head, assumed a globular shape, and completely swallowed up the gland.

The small tumor contained nothing but hollows and clefts, of a scarcely visible size, in form from, points and furrows to the size of a hazel-nut. Some of the larger were round, the most of them very irregular and running into canals in various directions, and communicating in a manifold manner with other cavities, as could be readily demonstrated. Some were only filled with fluidity, others completely stuffed with vegetations, which were mostly seated upon one point of the wall, and had through pressure a laminated appearance; or that of a uniform mass bossed upon the surface, a section of this mass again presenting a multitude of extremely fine clefts and cavities. Some of these spaces, however, were apparently only the result of the incomplete growth of the vegetations situated one within the other. The smallest shoots of these vegetations exhibited also many microscopic, partly half-globular, partly very long, tuft-like apophyses of the structure of the fundamental mass; which were greatly crowded by the large number of cysts, and the papillous growths arising in them.

The large tumor, which was surrounded by an envelope of cellular tissue, contained many cysts with a cavity of the size of a hen's egg, lined by a smooth membrane; and a multitude of smaller ones, that appeared to the eye upon laceration of the tissue like fine clefts and furrows. They were partly globular, partly irregular, provided with embossments, long processes, &c.; or represented two concentric parts, like the cavity of the tunic of the testicle, whilst one wall was pressed against the opposite by the encroaching mass. In the smaller was a clear, sticky fluid; in the larger, a brownish fluid, with vegetations, partly in the form of small masses, partly extended and ramose, with short terminal bulbs, frequently giving the appearance of a cluster of the smallest berries. The growths seated mostly upon one point of the cyst, of a whitish, yellowish, or reddish color, often filled up the whole cyst, so that they became pressed through the wall, and presented rounded forms with superficial parallel curvatures, like the windings of a hypertrophic brain. At many points, they broke through their cysts; and the vegetations of different cavities crowding upon one another, became flattened, and from position and growth assumed a cock's-comb or papillar form. Hence, several cysts were often transformed into one, in which could be seen pouches, partitions or bands, the remnants of the cyst-walls. Through the crowding together of these growths from various sides, a firm mass was formed. If this did not take place at all points, by stretching or bending the substance, upon the cut surface could be seen long clefts easily distinguished from the cyst-cavities; whilst the whole tissue proclaimed its origin from the vegetations through the intertwining of chords set thickly together, partly parallel, partly intercrossing, imitating the fibrous disposition of the cardiac muscle. If the vegetations were bisected, the surface showed upon close examination a repetition of the same formation which lay at the base of the primitive mass; that is, there were found again a multitude of smaller irregular cysts appearing like clefts or furrows, but in this case without distinct epithelium.

3. *As there are cases in which both the fundamental tissue and also the cysts near one another, continue to grow undeviatingly to a mass weighing many pounds ; so, also, on the other hand can the endophytes, through luxuriant growth, supplant all the cyst-walls and surrounding fundamental substance, and by united increase, present in part a very uniform mass, and in part the most decided form of cystosarcoma phyllodes, which at last is inclosed in one single, large cyst, this again becoming penetrated by the continuous growth of its contents.*

A scrofulous female, twenty-five years of age, had an almost globular cyst, larger than a man's fist, causing atrophy of the mammary gland, with the exception of its inner part; which was connected with the adjacent tissues by very thick, almost tendinous, cellular tissue; and whose parenchymatous contents, at the anterior part, penetrated the cyst-wall, the adipose tissue, and the skin, and then grew exteriorly in a frightful manner. The sac could be separated, with some pains, from its contents, excepting at a few points. It consisted of two layers, the inner of which was marked with small clefts, furrows, and pouches, and with a trenchant-edged opening sufficient to admit the point of the little finger, which led into a cavity of the size of a walnut, lying between the inner and the already very thin exterior wall, into which the cyst-parenchyma grew with a contracted neck. At this point, which was directly opposite the outward rupture, was therefore the exterior perforation projected.

The mass itself was white, very firm, not capable of being crushed with the fingers; and the moisture adhering to the fingers in small quantity, but little adhesive. With the exception of the two perforating portions, the mass was smooth; and, on account of the very distinct windings, not dissimilar to the cerebellum, except that these were irregular, and received between them here and there conical eminences from a merely visible size to that of a pea. Upon a closer examination, partly by means of crowding asunder the parts, partly by sections in various regions, we could easily satisfy ourselves that the whole consisted of mere papillar structures, which in greater part grew one with the other to a uniform mass; a part were standing wholly free, a portion partially so. Where they were connected most thickly, and interiorly, the tissue was solid as a firm fibroid, with a mere appearance of tortuous lines designating the points of growth: where the connection was loose, they could be separated by the finger or a blunt instrument at the roots of the papillæ. Highly remarkable was the circumstance that, especially at those places where very many papillar roots united as at a point of divergence, shining, white, epidermal structures were imbedded, from the size of a hemp-seed to that of a bean, laminated, very easily separable. The papillæ not connected with the thicker part were frequently so situated that they left remaining clefts or irregular spaces of from one-half to an inch in length, which contained no fluid. At these points, the size and form of the papillæ could be most distinctly seen. Some appeared as scarcely visible eminences; in the opposite rank were some an inch long, and sent forth occasional secondary papillæ. If they were transversely bisected, in the middle of many of them could be seen a very narrow canal, but which did not extend far down into the pedicle; in others, it could not be detected.

The supply of blood was upon the whole quite large, for upon the cut surfaces could be distinctly seen here and there *the lamina of vessels which ran along the pedicles to the thick ends.* But the supply to the growth subjected to exterior influences was extraordinarily great. *The most recent blood-formation was here presented in the form* of sharply-circumscribed, irregular *blood-centres*, reaching the size of a bean; and *interrupted vessels* coursing upon the surface of the papillar eminences, visible to the naked eye, *which appeared under the microscope as if without walls, very large, interruptedly ramose, and vermiformly curved.* The whole mass exposed to the air was throughout colored red by the new-formed blood, but not all parts in an equal degree.

4. *In other cases, the growths proceeded almost regularly from the periphery of the tumor towards the centre, whether there was originally but one cyst, or that those situated interiorly were supplanted; whereby, in both cases, a thick, fleshy tumor was formed, with a greater or smaller central cavity, into which the free conical ends projected in a convergent manner.*

Although this form is much rarer, yet I have operated upon such tumors. I found the cortex sometimes only a few lines, sometimes two inches thick. The transparent mass was always tolerably soft and easily crushed, provided with blood-points and lines without ramification. The free papillæ were especially colored red on account of the large supply of blood.

Etiology.—These tumors originate in maidens, in fruitful, and more rarely in barren women, who may be blooming and well nourished, or pale and emaciated. In very rare instances, others have observed them in men. They occur much more frequently in the irritable than in the phlegmatic temperament. At times the origin is referred to a traumatic lesion, but for the most part no appreciable cause can be discovered. Tumors having existed many years, often suddenly begin to grow rapidly; the cause of which is at times a traumatic one. It is certain, also, that scrofula disposes to this disease, and once I have seen it progressing in connection with pulmonary phthisis.

They are in the majority of cases benignant formations, although it is not rare that several of them occur in one breast, or upon both sides simultaneously, or sometimes are developed one after another. I have seen two or three cases of relapse after extirpation. Once I saw a second relapse. Whilst the patient was a blooming girl, she was operated upon in one breast; then twice while a fruitful woman, in the other breast—always at intervals of two or three years. The mass was never larger than a walnut.

The *operation* should never be long delayed, in order that the mammary gland may not be supplanted. I have never observed a disappearance of the tumor in consequence of a new pregnancy, or during lactation. The operation consists in extirpation, which need not be feared, even when the mass is of enormous dimensions. Since great movability always exists, an easy enucleation is accomplished without severe hemorrhage, and much of the skin covering the lateral parts of the tumor can be spared, while no great amount of surface becomes exposed. If perforation has taken place, we should hasten the operation, in order that the strength be not exhausted by repeated hemorrhages from the luxuriant excrescences, and that the gangrenous obstruction and its results be prevented. If, in consequence of the gangrenescence, violent fever and high inflammation of the surrounding tissues have occurred, and if the latter by cold poultices is not reduced to such narrow limits as the hemorrhages render desirable, the operation should be undertaken notwithstanding all these unfavorable circumstances. We should then, however, be prepared for inflammation of the lymphatic vessels, and erysipelas. After extirpation, the adipose tissue exposed by the wound should be closely examined, because at times very small independent nodules of the same texture exist, which must always be immediately removed.

II. Cystosarcoma of the Mammary Gland poor in Parenchyma.

They approach more the simple or compound cysts with rare growths from the inner wall, and therefore have proportionately less parenchyma, which is fibro-cellular, but in the endophytes of an embryonal cellular nature. They represent nodular irregularly formed tumors, which grow slowly, are unaccompanied by pain, and, according to my experience, rarely reach an important size; but when they do, they approach the globular form. The soft, fluctuating points often increase early with the skin, and may, from the dark color of the fluid content, induce a bluish translucency. The fact that the fluctuation is already felt when the tumor is of small size, may serve as a mark of distinction from the former variety. A cyst-like distension of the milk-ducts forms the basis of many of those which lie near the nipple, and discharge, from time to time, through the latter, a fatty fluid.

As examples, I adduce the following conditions: 1. A tumor of the size of a goose-egg, consisting merely of irregularly-formed cysts of various size ranked one within the other, whose septa were very thick and firm, and of a fibroid character. The inner wall of the envelop dirty blue, and as if uneven and radiated from scars. The content brown red, consisting of blood-coagula, as in aneurisms. Only in a few cysts was there a pale yellow, clod-like endophyte. 2. A conglomerate tumor of mere bossed cysts, of a nodular form, with little intervening substance. The envelop-walls, from the cleaving and transformation of the original structureless substance, consisted of several layers, the internal of which was fibreless, the middle broad-fibrous, and the exterior, with gradual transitions, distinctly and delicately fibrous. The most of these cavities filled with a sanguineous fluidity, a few with a white, here and there pale-red, moderately firm, easily lacerable, incompletely cellular mass, separable with difficulty from the wall. 3. Several very thick-walled, fibrous, irregularly-formed cysts, which contained a white content like softened tubercles.

B. Cystocarcinoma of the Breast.

I know from experience that in rare cases the soft, fibrous cancer, and the reticulated cancer enclose within them a greater or less central cavity; but this cannot be recognized with certainty, although the mass is then accustomed to assume a more globular form.

I have observed medullary sarcoma as cystosarcoma of the mammary gland, only in so far as the endophytes springing from the inner wall, which were composed of nuclei and cells, contained a milk-like instead of a sticky, transparent juice. I have also seen cases, which, according to the prevailing views, were evidently medullary sarcoma without stroma, where, in the small, soft mass, yellowish or rose-colored from effusion of blood, nuclei, white encephaloid nodules, and here and there fundamental substance containing cells, were interwoven. The existing cysts were, some large some small, filled partly with a sanguineous fluid content, partly with gray-white transparent growths.

I could not positively determine, during life, the medullary nature, when from the given signs it might be considered otherwise, for, as in cysto-steatoma, the form was more globular, the axillary glands were not at all swollen, and the patients often appeared perfectly healthy. The result of the operation, also, was mostly favorable.

Remarkable as it is, that medullary sarcoma, otherwise so deleterious to the lymphatic system and to the whole constitution, in the above-mentioned form, is borne easier and longer without injury; yet it is still more remarkable that the first form of cystosarcoma, almost always running its course perfectly benignant, in certain cases exhibits a high degree of malignancy. I shall introduce here an example, in order for the future, from the slight peculiarities which it presents, to approach, perhaps, nearer to the true cause of this malignity.

A peasant woman, fifty years of age, childless, always healthy in her youth, had, six years before, observed a tumor in the left mammary gland. Two years since, she began to emaciate, which was evidently much owing to the fear of a mammary cancer. Some months since, the tumor grew remarkably fast. When I saw the patient, the degeneration was much larger than a child's head, globular, covered by a very blue skin traversed by many veins, very freely movable and circumscribed, with large and smooth nodes upon the surface; partly soft, nowhere fluctuating. No swelling of the axillary glands. The patient was lean, cachetic-looking, and did not leave her bed, on account of the traction caused by the weight of the tumor. Pulse quick, appetite poor, night-sweats; no pain was felt. As I found no organ suffering in any manner, and ascribed the weakness, loss of appetite, and emaciation, to her long confinement in bed and constant anxiety, and as the patient urgently desired removal, I undertook the enucleation, which was accomplished easily, quickly, and with very little loss of blood.

The mass had a fibrous envelop, with the shining appearance of a serous membrane, and consisted of many roundish lobular nodes, some of them the size of a goose-egg, between which the cellular envelope was propagated. Some nodes were firm, others soft, some gray and translucent, others whitish and scarcely translucent, others yellow like a tubercle. Very many cavities, a part quite small, globular and smoothly lined, a part irregular, provided with no distinct membrane. In the small ones as well as in the whole texture a sticky fluid, the larger almost filled with endophytes, which were extremely soft, not transparent, white or yellow, and represented in part granulated eminences or conical projections, in part pediculated, partly long-sessile, at times curvilinearly plaited or cockscomb-like papillæ. The very soft substance, as well as the fluid content of the latter cavities, were very rich in blood. The broken surface of the substance exterior to the cavities was somewhat fasciculated or foliated, the cut surface somewhat uneven, here and there round parts projecting, which (to the naked eye) were surrounded by fibrous tissue in the form of broad bands running in different directions. By scraping, we obtained some clear, sticky fluid.

Under the microscope the juice exhibited remarkably clear, naked nuclei. The firm intervening substance was striped, only at particular points distinctly fibrous, whilst in all other parts the fibrinization took place only through ranks of long nuclei. Together with these, granulated nuclei were also seen. In this tissue lay imbedded a quantity of microscopic cysts, which appeared like round heaps of granular nuclei, surrounded by concentric fibrous layers, which were separable by acetic acid, frequently into rings of nuclei. Finally, here and there follicular hollow structures appeared filled with granulated nuclei, which at times were diverticulated in a manifold manner ; that is, botryoid hollow loculi. The soft endophytes in the irregular cavities were in the process of fatty transformation, and exhibited, therefore, fat globules of all sizes, nuclei, and cells filled with greenish shining nuclei, and such a quantity of molecules that often the whole preparation was obscured. The stroma holding together these elements appeared to be structureless, and showed at the borders of the preparation, here and there, round eminences with nuclei and cells. Furthermore, there were also seen large, round or irregular, yellowish, shining laminæ, becoming through pressure paler and duller, which I looked upon as coagula of organic materials.

The woman had soon recovered from the operation ; the yellowish tone of the color of her face was lost ; her appetite came, and also more muscular power. But as the wound was near cicatrization, a new growth began at the yet open point, which spread with extraordinary rapidity, secreted a large quantity of serous, sticky fluidity, exhibited upon the surface nodes of the size of a walnut, which were tolerably soft and covered with a gelatinous, transparent, gray-white coating, and immovably connected with the surrounding tissue. Under the increasing growth of this mass she died, three months after the operation.

The whole tissue of this tumor accorded in the main with common cysto-steatoma ; but the highly fatty and tubercle-like transformation, and especially the papillar and fasciculated fracture of the fundamental tissue is an unusual phenomenon. The texture approached, thereby, reticulated cancer ; for in this we find, besides the peculiar cleft surface, frequently a conglomeration of variously colored nodes, of nearly equal size, of which one or another is colored yellow from tuberculous detrition. This woman, furthermore, was already past that period of life, when benignant cystosarcoma is accustomed to occur. It is therefore worthy of future inquiry, whether the transition of the tissue into that of reticulated cancer under favor of the climacteric years, furnishes the cause wherefore cysto-steatomata at times take on so malignant a course. This case also shows, that the botryoid hollow structures may be lodged not only in an imperfectly or perfectly developed cellular tissue, but also in other textures.—*Medicinische Wochenschrift* [*Vienna*], *April*, 1854.

PART IV.—HOSPITAL RECORDS.

[This department of the MONTHLY is under the charge of, and compiled and written by Henry Melville, M. D.]

Institutions under the Management of the Commissioners of Emigration.

THESE are, the Marine Hospital at Staten Island, and the several Medical and Surgical wards, and the House of Refuge at Ward's Island.

Through the kindness of the commissioners, and the politeness of Mr. Walsh, I have been put in possession of several printed documents connected with the proceedings of this corporation and the institutions under its management. I regret that, owing to the casualty of fire, which occurred in the building in which the records were kept, and the confusion resulting in the endeavor to rescue them, some of the printed reports have been temporarily mislaid or permanently lost.

From those documents in my possession, however, and from information obtained from other sources (the donors of which will, I trust, excuse a more detailed acknowledgement), I have been able to construct the following narrative, which, as a portion of the institutional histories proposed and commenced in the first volume, will, I hope, prove interesting to the reader.

It would seem that, in the earlier years of their official duties, the commissioners had to contend with many serious difficulties, arising from insufficient legislation, pecuniary embarrassment, public opposition, popular prejudice, and, in some measure, from internal dissensions. These circumstances are, however, but the common lot of the wisest of human arrangements; they belong to the past, and it would be neither relevant to our present purpose, nor beneficial to the cause of humanity and science, to penetrate the veil which time has drawn over them. It is sufficient to know that the Legislature have evinced no disinclination to make such provision, from time to time, for the better organization of the system of emigrant management, as the accumulated experience of the commissioners has made apparent. Nor can it be doubted that it will continue to act with the same liberal spirit, on all the suggestions which they shall make in future, when these are found to be reasonable in their nature, practicable for accomplishment, and devised with a direct and earnest purpose for the welfare and comfort of the stranger and expectant citizen. Much, if not all, of the opposition encountered at first, arising, in a great measure, from the nature of the constitutional enactments under which they exercised their functions, and carried, in some instances, to the extreme of litigation and judicial interference, has subsided, in consequence of the changes which have been made in the several acts of the State Legislature, connected with their revenues, powers, and authority. May we not also reasonably hope, that popular prejudice will yield to the conviction, that there is no limit to the desire to fulfill to the utmost the obligatory duties, voluntarily assumed by the commissioners, towards those who, although they cannot, perhaps, be strictly and literally regarded as paupers, are yet objects of the deepest sympathy and fostering care to their fellow men, particularly from the peculiar manner in which they are generally presented to their regard. If abuses exist, there is a constitutional and effective manner of remedying them provided by the laws of the State. No defect, therefore, arising from collective error, or individual wilfulness, should be construed into a cause of reproach or fatal objection to the system, but should be repaired with energy and promptitude, and viewed with the most charitable feelings. It is an irksome and undesirable office, and in the absence of all pecuniary or other motive of interest, must be undertaken with the desire and intention of doing good. This exordium is by no means intended as an apology for the commissioners, were such even necessary, but as a simple tribute of testimony of the sense entertained by a very large proportion of the profession, of the efficient manner in which the medical care (that alone which it is here essential to notice) of the sick emigrant is regulated and provided for.

It is fortunate that, from the period at which the principal legislative defects were remedied, the records are perfect. I shall therefore commence the consideration of the transactions at a period when the course of events appears to have commenced to run somewhat more smoothly.

The supreme court of the United States, having finally adjudged the invalidity of the several laws of New York, on the subject of the taxes leviable on passengers arriving here, the Legislature, on the 11th of April, 1849, passed a law revising the whole system. As under this law certain changes were made which rendered the hospital at Staten Island a distinct establishment, and really brought Ward's Island, as an hospital, into existence, I propose to treat of each separately; first premising the general scheme upon which both charities are conducted and sustained.

The income which the commissioners have at their disposal for meeting the expenditure necessary to support these hospitals, is derived from a poll tax of $1 50 on every passenger arriving at the port, not a citizen. This sum was raised to $2 00 under the provisions of an act passed in April, 1853; but a reservation of fifty cents was made "as a separate fund, for the benefit of each and every county in this State, except the county of New York." This reserved amount is divided every three months, according to the claims which the counties may have for expenses incurred for the transport, maintenance, or care of emigrants. Any balance left after such distribution, is then appropriated by the law to the general purposes account of the commissioners. This income is further increased by fines and penalties accruing from breach of the regulations prescribed by the act, from real estate and other property, and from sundry other sources. The following tables exhibit the revenue and expenditure for the past five years:

REVENUE.

1849.	Balance in bank,	$89,242 13	
	Commutation of bonds,	311,470 46	
	Other sources,	2,585 93	
			403,298 52
1850.	Commutation of bonds,	316,348 35	
	Other sources,	41,662 01	
			358,010 36
1851.	Commutation of bonds,	447,666 19	
	Other sources,	8,012 08	
			455,678 27
1852.	Commutation,	455,236 50	
	Other sources,	100,675 79	
			555,912 29
1853.	Commutation,	550,755 50	
	Other sources,	40,896 42	
			591,651 92
	Total,		$2,364,551 36

EXPENDITURE.

1849.	All sources,	$381,214 46	
1850.	"	369,561 39	
1851.	"	463,654 00	
1852.	"	569,516 74	
1853.	"	586,859 19	
		$2,370,805 78	
	Less difference of balances,	6,254 42	
			$2,364,551 36

I have not carried on the balances in each year, being desirous of contrasting the yearly receipts and disbursements, which, it will be perceived, vary considerably in each year; a contra charge of $1,351 16 for difference of balances on the side of the revenue, will exhibit the real balance shown by the last yearly report of the commissioners, viz., $7,605 58. Such are the large features of the extensive financial machinery necessary for the support of this system. In the details, those who are sufficiently interested in the matter to investigate the subject farther, will find evidence that, in spite of the apparent yearly increase of the amount accruing from the poll tax, the commissioners have been compelled, in order to meet the contingent expenses, to mortgage a portion of the real estate held by them. Nor is it at all unlikely, in view of the indispensable improvements and extended accommodation necessary for the reception of the increasing demands upon them for support and care, that some such subsidiary means of revenue will be again demanded. The most interesting point in these details to the professional reader, however, is the proportion of this amount of expenditure devoted to the strictly medical charges. These we shall consider under the respective establishments.

All persons arriving at the port, laboring under infectious or contagious diseases, or contracting these after landing and within five years after their arrival, provided they have not been resident out of the State more than twelve months continuously, are entitled to be received into the Marine Hospital at Staten Island. All other cases of disease, under the same limitations, are admissible to Ward's Island.

MARINE HOSPITAL.

Under the acts which were in force in the earlier part of 1849, the marine hospitals were under the joint government of the Commissioners of Emigration and of the health-officer of the port; the former having the financial responsibility and the power over the property and supplies, whilst the health-officer was the chief physician of the establishment, with authority to appoint his medical assistants.

At that time, all passengers, whether citizens or aliens, arriving at the port, being subject to a tax, were entitled during one year, if requiring gratuitous medical care, to be received into this establishment; all contagious and infectious cases being, of course, retained there in performance of quarantine. The buildings appropriated for hospital purposes thus became filled to excess; and patients laboring under milder forms of disease were exposed to all the dangers of contagion and infection. Bedlow's Island and the U. S. Public Stores had been temporarily granted for the relief of the surfeited hospital. By the act of April 11th, 1849, the marine hospital was specially restricted to the reception of infectious cases, and placed under the separate charge of a physician in chief and four medical assistants, leaving the commissioners control over its financial concerns. The commissioners found it expedient, under the arrangements at this time, to unite to the specific duties of the chief physician those of resident superintendent, vesting him with the general inspection and control of the establishment, to carry into effect their by-laws, and to act under their authority in matters of discipline. These changes were found to answer the end in view then; and doubtless the conclusion arrived at by the commissioners is a just one, when, in commenting on the pestilence and mortality of the summer of that year, they state that they were found to be a powerfully efficacious means in preventing its extension over crowds of other patients.

By the act of May, 1849, the selection and appointment of the nurses and orderlies were given to the several assistant physicians, each for his own department, the number being determined by the chief. The commissioners remonstrated against this; suggested that they should also be vested with the authority to dismiss these subordinates, and that the chief of the department, who was responsible for its general good order and moral character, should exercise a right of approval of all appointments so made, and be likewise vested with the power of dismissal. These remonstrances were repeated the following year, and the additional anomaly pointed out, that the chief physician and his assistants were appointed by the governor and senate for an unlimited term, without the reservation of any control over them, except during the session of the Legislature. Some deficiency in the regulations for the maintenance of quarantine on land, were also pointed out. Under the new law, the health officer's connection with the hospital was limited to the privilege of visiting and inspecting the hospital, and granting the discharges of patients. His duties on the water debarred him from the exercise of any watchfulness over the integrity of quarantine, as far as the hospital was concerned. This prerogative and responsibility they further recommended should be vested in the chief medical officer.

In their report for 1851, the commissioners also recommend the reduction of the number of resident assistant physicians from four to two, with authority to employ increased medical aid in case of emergency. This recommendation was offered in consequence of the greatly decreased proportion of patients at the Marine Hospital since the change in that establishment. This was apparently a prudential suggestion. It was also submitted that a reduction might be made in the salary of the physician.

Under the Revised Statutes of 1846, the health-officer, *as physician of the Marine Hospital*, was to receive a salary of $450; as health officer, he was entitled to certain fees on vessels visited and examined by him, ranging from $6 50 to $1 00. The emoluments arising from this source would of course depend upon the number of vessels in the aggregate, and of that of the various classes; and would make the revenue of the office, at the present day, one of the most desirable, in a pecuniary point of view, open to the ambition of the practitioner.

Under the act of 1849, when these combined offices were separated, the salary of the physician was fixed at $5,000 per annum. When it is considered that to perform his duties the physician must relinquish his private practice, and subject himself, and his family probably, to the risks attendant upon his duties, this remuneration cannot fairly be considered to have been large; and when, in addition to his responsible medical duties, the commissioners sought to encumber him also with the functions of a general superintendent, it does seem that this proposal *of the majority* to reduce his emoluments was ill-timed and ungracious.

By the amendments made by the Legislature, in 1851, to the previous acts, the commissioners gained the several points contended for in their previous representations; the fifth section giving them the authority to employ and appoint and dismiss, at pleasure, a superintendent, physicians, and such other officers, nurses, and orderlies, and such servants, as they shall deem necessary for the management and care of the marine and other hospitals used for quarantine purposes.

By the sixth section, they are authorized to require the health-officer to perform the duties of physician to the Marine Hospital (thus abolishing the office of chief physician, and combining the two as under the old statute of 1846); in which case, says the act, he shall reside within the quarantine enclosure, and perform the duties of physician of Marine Hospital, and all other duties appertaining to that office, and discharge the patients from the hospital without compensation therefor. He shall also perform the duties of superintendent without compensation, if so required by the commissioners; and finally, he shall pay the wages of the boatmen whom they shall respectively employ. A marvellously considerate piece of legislation, certainly, for the benefit of one office! But the end is not yet.

The third paragraph of the annual report for 1852, commences thus: "The most remarkable feature in the immigration of the year, is its unprecedented increase," it exceeded, in fact, by nearly 70,000 the largest number arriving in any one year since the organization of the department. And added to the increase in numbers, was the frightful havoc made by ship-fever and cholera. The report refers to the change made in the law by the act of July, mentions the fact of Dr. F. Campbell Stewart's resignation, and alludes to the circumstance of Dr. Doane's compliance with the new requisitions of the law, to the entire satisfaction of the commissioners, for five months; but, unfortunately for the new system, he was attacked by ship fever on the 15th of January, and died on the 27th. Can we wonder at such a result, when we reflect on the multifarious and perilous duties he had to perform? Exposed to fatigue by sea and land; subjected to the constant inhalation of crowded, pestilential wards; harrassed by the various and diametrically opposite duties of health-officer, chief physician, and superintendent; his sympathies worked up by the fearful scenes around him; his anxiety augmented by the responsibility of increased duties, under circumstances most trying to untrammelled practitioners; the melancholy warnings coming to him in the martyrdom of Drs. Alden, Cameron, and Curtiss, assistant physicians,—can it be matter of surprise that, with a mind so tried and a frame so exposed, frail humanity should have sunk under the ordeal, and Dr. Doane have become the victim of a combination of duties and labor disproportionate to the endurance of ordinary constitutions. Well-timed, indeed, and justly merited, were the resolutions passed by the board subsequent to the decease of this lamented gentleman. In justice to those who framed them, and to the memory of departed worth, I have here transcribed them:—

> *Resolved*, That the Commissioners of Emigration are deeply sensible of the public loss sustained by the death of Dr. A. Sidney Doane, from disease contracted in the fearless discharge of public duty, and the service of humanity.
>
> *Resolved*, That his professional acquirements, his talents, energy, devotion to duty, and intrepidity in its discharge, were peculiarly and constantly displayed in his relation to the commission as health-officer of the port of New York, and physician-in-chief to the Marine Hospital.

In the report of this year, I discover the first attempt to give any statistics connected with the institution, in the shape of a report commenced by Dr. Doane at the time of his fatal seizure, and incorporated by the commissioners with their annual report. This practice, it is gratifying to perceive, has been continued in the two last reports, on an improving scale, and by a recent act has been required by the Legislature. We have no doubt they will be made most complete, practical, and useful, by Dr. Vaché.

The great increase of immigration during 1851, and the operation of many aggravating causes of disease, produced a corresponding increase in the number of admissions to the Marine Hospital during 1852. The whole number under treatment during the year was 8,887. "This," says the report, "is a greater number than in any preceding year, even including the years before the Marine Hospital was specially appropriated for the reception of infectious or contagious diseases." Additional shanties were built on the hospital grounds, and resort was had to the adjoining stores of the U. S. Government. In addition to the malignant form of ship fever prevailing in the earlier part of the year, the hospitals were invaded by Asiatic cholera during the summer.

The commissioners somewhat reluctantly indicate that their confidence in the scheme of combining the chief offices at the station in the same individual was broken. They fell back, however, upon the act of 1851, and placed the medical treatment under the charge of a chief physician, assisted by a sufficient number of salaried physicians employed by the year for the regular duty, with such additional, temporary medical aid as necessity might require. And a separate office of superintendent, was also established. In April, 1853, an act in amendment was passed by the Legislature, restoring this power to the board, and continuing the duties and remuneration provided by the former act; also placing the appointment of the assistants, nurses,

&c. in the hands of the chief physician, subject to the approval of the commissioners. This is as it ought to be in all respects save one. The remuneration is inadequate. The personal sacrifices and risks run by the gentlemen who fill these appointments, require that such a compensation should be provided as would render them to a certain extent independent of the casualties of their post, and enable them after a term of years to retire with a competency sufficient to maintain them comfortably in the decline of life, or in the fierce battle to regain lost position in the arena of private practice. I care not from whence the compensation is provided; if the funds of the commissioners are insufficient, let the State supply the deficiency. If nothing more can be done, let the commissioners pay the premium on a life policy for a respectable amount, in behalf of their families, during their tenure of office.

(To be continued.)

REPORTS.

Cholera.—The leading feature of the past month, in a sanitary point of view, is the advent of cholera to the city; its appearance, also, in other parts of the Union, would prove this visitation to depend upon some general zymotic influence, and not, as has been asserted with reference to this city, on direct importation of the contagion through the medium of immigrants. It is well known, that during the last two summers, cholera prevailed to a considerable extent among the immigrant vessels; that there was, all through the season, more or less of it at Staten Island quarantine station, and *not* a few sporadic cases in the city itself and the various institutions appropriated to the reception and relief of the sick; yet it was by no means general, not in fact considered to be, or at least not then called, epidemic. The accounts received, during the past few months, of its appearance in England, Scotland, and Ireland, and in some portions of the continent of Europe, to which it has been hitherto a comparative stranger, ought, naturally, to have prepared the public mind, on this side the Atlantic for the probability of its occurrence here; and, now that it is upon us, it behooves us to use every possible means to stay its progress, and aid and relieve its victims when assailed. From the frequency of its return, the general character of its results everywhere, and the somewhat modified nature of its malignancy, we may now regard it as a periodic epidemic, obeying certain laws analogous to, if not identical with, those which regulate all the more common forms of epidemic diseases known to the profession, and not as an erratic visitant from a distant locality, where its permanence and other characters have placed it among the endemic diseases peculiar to that climate and region. Notwithstanding the greater familiarity acquired, of late years, in different parts of this and other countries, it may be fairly questioned whether the profession have arrived at any definite opinion, either as to the absolute nature of the disease, or as to the most efficient and successful mode of treatment. It is, however, encouraging to know, that some progress seems to have been made in the latter respect; for the comparative results given by the published returns of the hospitals in Great Britain, exhibit a larger proportion of recoveries in this over former epidemics.

Whether this is altogether to be attributed to a better understanding of the pathology, and a consequent improvement in the therapeutic management of the disease, is an important and interesting question; or it may be that the disease itself manifests such modification of its severity, at each successive outbreak, as has been observed to have been the fact, during the early history of some now familiar diseases.

In those cases which have appeared in the hospitals of this city, it would be unfair, as yet, to found an opinion upon the results, inasmuch as, in the majority of cases, the disease has attacked patients already enfeebled by existing disease, or not yet fully convalescent from the effects of recent illness. In many instances, the disease has occurred in wards in which there had been no communication with those suffering under it; and in one instance, the disease broke out in the wards before any cases had been admitted from abroad. The facts connected with its progress will appear, under the heading of each institution.

The Board of Health have organized a central hospital in this city, in Franklin street, to which all cases occurring in the other institutions, and among those who usually resort to public charities for treatment, are to be carried. I have not as yet learned who are to be the staff of this hospital, nor, if appointed, whether they have determined on any systematic mode of treatment; but in the next issue I shall be enabled to give some interesting details connected with these particulars, as well as the general results. The Board of Health of Brooklyn city, have also centralized their cases, by the establishment of an hospital in Lafayette avenue.

The mortuary returns of the City Inspector, for the last two weeks, give 102 as the total number of deaths from the disease. As far as I have been able to discover, the principal localities from whence the cases hitherto occurring have been brought, are Anthony, Water, and Cherry streets—precisely the spots whence one would anticipate all malignant disease to spring. It cannot be denied that, however efficient the police arrangements of the city may be, that department which has the supervision of the hygienic arrangements, are either sadly deficient in the means of fully carrying out their views of the proper mode of cleansing the streets and thoroughfares, or ignorant of the best plan of accomplishing this important duty, and the grave responsibility occurring from its neglect. Much discussion has frequently hitherto arisen as to whether, after an epidemic disease has made its appearance in a district or community, it is prudent to disturb the accumulations which are naturally supposed and universally allowed to be sources of noxious exhalations; and it has been a matter of much surprise to me, to hear the same doctrine mooted recently; but the wise of all countries have now fully made up their minds that, if nuisances at all, and sources of the generation or augmentation of disease, the sooner they are removed the better, both previous to and at any period during the prevalence of such epidemic.

There can be no reason why this should not be done in New York, perhaps more efficiently than in almost any other city with which I am acquainted. The position of the city between two wide and rapid channels of drainage and exit, the abundant internal supply of water, which might, with great ease be employed for the purposes of surface drainage and cleansing, and the facilities for sewerage, are such as few large cities enjoy.

Bellevue Hospital.—There have occurred ten cases of cholera in this hospital, some of which were brought into the wards from the city: one case occurred in a patient laboring under phthisis, in a separate ward from that in which the other cases were, and made its appearance at a very early period. *Two* cases out of the ten have recovered. Treatment has been very various: in the recovered cases, opium, quinine, and stimulants were employed. In other departments of the institution there has not been much to require comment. There has been a very interesting postmortem, of a case of psoas abscess, revealing extensive carious degeneration of the internal surface of the left os ilium, and large communicating collections of pus under the fascia lata of the thigh. The constitution of the patient was exhausted by hectic, before she was brought under treatment.

Ward's Island.—The new operating theatre at this hospital, was inaugurated on Saturday, the 24th ultimo, by an amputation of the shoulder joint, the second which has been performed within a very short period at this institution. The disease for which the operation was undertaken, was a large tumor involving the upper part of the humerus, encroaching very much on the shoulder joint, and extending into the axilla: so much was the shoulder implicated, that it was supposed it might be necessary to remove also a portion of the acromion and the scapular extremity of the clavicle; this, however, was found, during the progress of the operation, to be unnecessary. As in the former instance reported in this journal, a transient ligature was passed under the subclavian artery, as a precautionary measure; the extent and situation of the disease inducing the belief that it would be impracticable to secure the brachial or axillary artery, which might be more or less involved in the general mass of the disease; moreover, the enfeebled condition of the patient made it desirable to guard against all avoidable hæmorrhage. The subclavian was, owing to the altered relation of the parts caused by the disease, more difficult of access than ordinarily. This operation, usually regarded as a formidable one, and in the hands of most surgeons regarded as a *chef-d'œuvre*, would seem to be an unnecessary complication; but under the peculiar circumstances attending these cases, there can be no doubt that it was not only justifiable, but a very prudent and scientific procedure, nor was it attended or followed by any untoward or unpleasant consequences in the case of Murphy. The incisions were made as recommended by Larrey, and similar to those used in the former case alluded to. On making the longitudinal incision, a rush of dark, venous blood took place. The external incision was then commenced, the knife carried under and around the arm to the point of departure: a trifling amount of dissection then permitted the disarticulation of the bone. The axillary artery was then secured, being found sound and free enough. The patient bore the operation very well, considering her enfeebled condition, and reaction took place within four hours after its completion. The disease appeared to be of an osteo-sanguineous character; the bone was much expanded and disintegrated. I have not yet, however, had an opportunity of examining the pathological condition of the parts.

The arrangements of the room, the light, the ample space afforded to the operator and his assistants, were found to be all that could be desired, and render this theatre one of the best in the city.

As an instance of the value of this hospital for the purposes of clinical instruction, arising from the large number and proportion of surgical cases admitted, I may mention that, three weeks ago, Dr. Carnochan had an opportunity of performing two amputations of the thigh, of a different character, on the same day, pointing out the leading principles which guide the surgeon in deciding upon the points and mode of operating. In one, a case of disease of the tibia and joint, affording space for the operation low down, the circular method was adopted, in order to preserve as long a stump as possible, and because the tissues at this point do not admit of such a serviceable flap. In the other, a case of disease of the joint and coverings and lower extremity of the femur, the operator was compelled to make his election higher up; and therefore the double antero-posterior flaps were preferred, there being ample room and plenty of substance and integument.

In addition to these, there has been an amputation close below the knee, by the single flap, after the method of Verdouin. A case of large ranula, and one of entropion, were also operated on.

There has been, in some of the minor cases of operation, a tendency to gangrene of a serious type; it has, however, yielded, in the majority of the cases, to treatment by black wash and Labarracque's solution.

The cases of cholera occurring at Ward's Island have been of a very malignant form, but fortunately not very numerous; being twelve in all, up to the time of our last information. The cases are removed, as speedily as they appear, to two isolated wards expressly devoted to their reception.

New York Hospital.—There have been treated in this institution, nine cases of cholera in all, of which four cases have recovered. The treatment adopted has been opium and acetate of lead, stimulants, and warmth. All cases are to be excluded in future; and those cases occurring in the wards are, if practicable, to be removed to the Cholera Hospital.

The wards are comparatively empty and void of notable cases. In the medical department, there is rather a curious case of what would seem to be intermittent *urticaria;* the external phenomena of the disease exhibiting themselves every second day with well-marked regularity—the intermission being perfect.

It appears to depend in some measure on gastric derangement, and not to be in any way connected with the periodical functions of the patient—a female. She was placed on quinine, and since then there has been a check to the return of the paroxysms.

Two well-marked cases of scurvy occurring among residents of the city, who had from peculiar reasons confined themselves to a meat diet—in one instance with an evident tendency to purpura—were speedily relieved by dietetic treatment.

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PART V.—EDITORIAL AND MISCELLANEOUS.

PUBLICATION COMMITTEE OF THE NATIONAL ASSOCIATION.—The report of the proceedings of the American Medical Association, which we published in our last issue, made but slight allusion to the change of the majority of the Publication Committee from Philadelphia to New York. This was by no means accidental. Knowing that a great deal of feeling was manifested by some of the members of the Association, we preferred to wait and observe the expression of opinions by the various medical journals, that we might not be accused of any desire to prejudice the minds of the profession at large. The entirely different course pursued by one of our city contemporaries would render any farther silence unwise, while from other journals there has been a sufficiently decided expression to sustain us in our position.

In speaking of the session, the editor of the *New York Medical Times* says:

"The only occurrence which seems to have at all disturbed the harmony of the meeting, was the transfer of the Publication Committee from Philadelphia to this city: the discussion of which is said to have elicited some personal and sectional feeling, while the decision led to the offer of the resignation, by his colleagues, of Dr. Condie, as Treasurer of the Association. We regret this measure on many accounts; the more especially as it will have a tendency to mar the cordial feeling which should exist between the sister cities, and will be particularly unpleasant when we visit them, as many of us hope to do, next year, and partake of their hospitalities. * * * * * The change is said to have been made in accordance with the expressed wishes of the New York delegation; and if so, we cannot believe that they fairly represented the wishes of their constituents. At least, we have never heard of any expression of opinion to that effect, and know that the measure is regretted by some of the strong friends of the Association among us. We regard it as the more unfortunate, from the fact that a resolution subsequently passed, that in future the printing for the year shall be executed at that city at which the meeting is held—a measure of questionable propriety, by the way, in its general application, but which in the present case, if confirmed at the next meeting, will transfer it back to Philadelphia, after an interval of one year only. A change could then have been made, if thought desirable by the majority; and thus the unpleasant feeling would have been spared, at least until after our meeting in that city." We confess that we entirely disagree in every opinion thus expressed by our esteemed *confrère*. But in order to a full understanding of the matter, and that the New York delegation may not thus lie under censure unjustly, we give an account of the whole matter, having made diligent inquiry to that end.

The member of the Nominating Committee from this State was Prof. J. P. White, of Buffalo—a gentleman, who, from his residence and position, has no sectional influences in favor of this city rather than Philadelphia; but who is in reality closely connected in his interests with the Western States. A majority of that committee was from the Southern and Western States, and not likely, by their position, to have an interest in any personal or sectional feeling between these two eastern cities. If, then, there had been any "expressed wishes of the New York delegation," we hardly know how they could have been laid before more disinterested judges. Of the Association, a very large majority was from the Western States, and the final decision was thus in the hands of equally disinterested parties. It is very true, there was no instruction of the delegates from New York to accomplish this change, and few if any of the profession in this city ever thought of the change till it was accomplished. But certainly our delegates were sent to the meeting not to follow only their instructions, but to act on all questions according to the best of their judgment. When, then, the Nominating Committee offered the publishing of the proceedings to New York city, was our delegation to decline it, either because we could not do it here, or because we might possibly offend the very sensitive stomachs of the delegation from Philadelphia? Such a step would certainly have been regretted by the *strongest* friends of the Association in this city.

The course of our delegation was much better. With the exception of Dr. Sayre, who was not nominated on the Committee, and who rose to answer the strange question—Can the printing be done in New York?—not one of our city delegates uttered a word in behalf of the proposition, but it was left entirely to the judgment of the Association. They did not deny that we could print a volume quite as handsomely in New York as anywhere else, and it was understood that if the labor was put upon them, they would do it well and promptly. What other course could have been pursued that would meet with so general approval?

But our *confrère* says that the decision led to the offer of the resignation, by his colleagues, of Dr. Condie, as Treasurer. We may thus properly speak of the course pursued throughout by the Philadelphia delegation. Dr. Rene La Roche, of that city, was the member of the Nominating Committee from his State, and, of course, could oppose the change when proposed to the Committee. Before the Association, Dr. Biddle, of Philadelphia, spoke at length, and with considerable feeling, upon the subject. *Immediately after* the decision, Dr. Condie's name was withdrawn as Treasurer, by authority of the delegation, and, of course, not by his desire, as he was not present at the meeting. Dr. West, of Philadelphia, then presented his resignation, but it was not accepted. A quiet suggestion that perhaps the delegation would withdraw the invitation to the Association to visit that city, brought them to see the light in which their apparent petulance was regarded.

Why so much desire was manifested to retain this Committee in Philadelphia, we are at some loss to know. If their duties were laborious, they would not refuse to allow others to relieve them of their labors. If they were honorable, they *ought* not to refuse to allow other members of the Association to share in the honor.

Some indication of the reasons which moved the Association to make this charge, is given by the following extract from the June number of the *Nashville* (*Tenn.*) *Jour. of Medicine and Surgery*, both the editors of which were present at the meeting:—

> "In addition to the just law of rotation in office, whether of labor, honor, love, or profit, all things being equal, there were some other reasons why the publishing committee should be changed from Philadelphia to New York. One was, that the publication of a single communication in the last volume of the Transactions of the Association, coming from a Philadelphia physician, had cost from $1,000 to $1,100. As this was alleged against our old preceptor, Dr. M., an explanation was called for, and made, we trust, to the satisfaction of all—that in presenting his article at the last meeting, Dr. M. stated it would cost a large amount for the illustrations, and no objections being thus offered to its publication, the Society was said to have sanctioned the issuing of the expensive plates. Another reason assigned we only learned after the meeting adjourned; it was, that the report of a New York member was denied admission into the Transactions by the Committee on Publication. This has since been issued from the press as an independent work, and is said to be of great value."

As to this latter reason, we never before heard of it, and after some inquiry, have not yet ascertained to what or to whom reference is made. As to the former, it is what was some months ago stated in a review of the transactions published in the MONTHLY, only we venture the opinion that the amount is nearer $1,600. The excuse hardly does justice to the facts. If our memory serves us right, the Treasurer, at the meeting, asked for a larger assessment to meet the expense of publishing a *very valuable* paper, and rumor said it was Prof. Meigs's to which he alluded. Dr. M., when his report was called for, rose with a large portfolio in his hand, and said the report was long and not *fit* to be *read publicly*, and requested that it might be referred to the Committee on Publication, which, out of courtesy to him, was done; but no member of the Association, except those from Philadelphia, had, so far as appeared, seen the article, and the fact that no objections were offered, hardly warrants the statement that the Society "sanctioned the issuing of the expensive plates."

The *Virginia Journal* is pleased to speak of the discussion on this question as "a struggle after the spoils." If the reports published by the St. Louis papers, and the copy of the Minutes, by some partiality accorded to one medical journal, are correct, it appears not to have been a struggle between the delegates of New York and Philadelphia, while it would be indeed difficult to say what *spoils* were counted upon, except labor without pay.

But our *confrère*, from whom we first quoted, especially regrets this measure, because it may mar the cordial feeling which should exist between sister cities, &c. We confess we have no fear of the kind. We are aware that our neighbors sometimes call their city the medical metropolis; but there is no prescriptive right in Philadelphia to publish the transactions of this body, and we have no doubt that our committee will show the profession that it can be done at least as well here. Neither have we supposed that they would next year stand up and pout, or refuse to recognize a New Yorker, or refuse to extend any civilities to us because the Association put a certain amount of labor upon a portion of our delegation. By no means do we think so ill of Philadelphians, and have no doubt that New Yorkers will be as cordially welcomed to that city of brotherly love as delegates from any part of the country.

A subsequent resolution provides that the printing of the Association shall hereafter be under the direction of a committee of members from the place where the meeting is held—an arrangement in every way admirable. Let the honor—if there is any—and the labor be divided. Let us bring into competition the printers of different cities, and we are sure the "Transactions" will not suffer. And we here warn our friends, that they will have hard work to go beyond the New York printing.

In conclusion, to show that *we* have not misjudged the profession in Philadelphia, we quote the following from the June number of the Philadelphia Medical Examiner:—

> "The discussion of the proposed removal was animated, but conducted with entire courtesy and good feeling. And, in referring to the topic, we beg to say, that we bow most cheerfully to the expressed decision of the Association, in the exercise of its undoubted right upon the subject, and that we have every reason to anticipate that the zeal and industry of our friends in New York will do early and ample justice to the papers committed to their hands."

OUR DOMESTIC EXCHANGES.—It would seem but gracious, to say the least of it, to show that we do not neglect our contemporaries to the extent of never looking into them, however much we may be opposed to the idea of "cutting them up"—a process literally necessary in those instances where the binder is prohibited from using his trimmer. It is now, however, our serious intention to wipe off a long score of arrearage in the way of notices, with the assurance that if we do not always follow this plan, it is simply because we have not space at our command,—and not that we underrate the value of their contents.

Boston Medical and Surgical Journal.—Since Dr. Smith's elevation to the mayoralty of his city, he has associated with him Dr. George S. Jones in the editorial management of this old established weekly. We have no doubt that the collaboration will be continued with the same judgment and industry as ever; but we confess to a sense of diminished zest while reading the leaders; there seems to be a want of the spiciness which formerly characterized them; and, after all, the editorial department is the main feature of a weekly periodical.

Philadelphia. The American Journal of Medical Science.—This quarterly evinces the usual amount of careful preparation, so characteristic of its indefatigable editor, and always comes freighted with original matter of much value. Among the latter may be noticed Dr. Rene La Roche's observations on black vomit, published in the last two numbers. This is one of the most concise monographs which has ever appeared on the subject. The writer reviews with care and candor all the literature connected with it; enters minutely into the physiology and pathology of the phenomenon; considers its value as a diagnostic symptom, and as a means of prognosis; analyzes, critically, the physical appearances, as presented by the microscope and by the unaided eye, its chemical composition and reaction; reviews all the opinions as to its nature; and sums up the whole with the enunciation of his own conviction—"it is the product of an hæmorrhagic effusion from the capillary vessels of the mucous coat of the stomach and bowels; in other words, blood, real, though somewhat modified in its texture." We content ourselves with this brief notice of the admirable paper at present; as we contemplate a more extended view of the subject at a future season, when we may perhaps question some of the author's conclusions, especially in reference to yellow fever, of which "black vomit" is still, by many practitioners, considered to be a distinctive pathognomonic sign.

Dr. Morland, in the "Records of the Boston Society for Medical Improvement," reports a case of successful excision of the head of the femur, by Dr. *Parkman*, in a case of ulcerative inflammation of the joint. In the same records appears a report of two cases of croup successfully treated by nitrate of silver, a solution of ℈ii. to the ounce being passed into the trachea.

Dr. *Buel* gives a very interesting series of notes on the catastrophe of the San Francisco steamer. He gives the following *résumé* of the conditional causes of disease and death among the survivors of the wreck: *Moral causes*—Fear, anxiety, and suspense. *Physical causes*—Overcrowding and want of ventilation, cold and wet, insufficient and unwholesome diet. Under this heading he states that, from the inability to keep up fire for cooking purposes, raw pork, hard biscuit and water were the chief diet. "Thus, it appears," says Dr. Buel, "that on board the San Francisco, there were in active operation all those influences which, everywhere, and under all circumstances, tend invariably to the production and development of disease in the human system." After commenting on the paucity of our means of explaining the specific cause of diseases, he adds, "there is to all diseases a period of incubation, distinct and definite in exanthemata, less so, but still well marked, in fevers and other diseases. This period of incubation sufficiently defines the period of the development of disease in emigrant vessels. When the cholera manifested its existence on board the San Francisco, that vessel had been about seven days out of port, between five and six of them subsequent to the wreck. *Thus, the incubation period corresponds almost exactly with that of the emigrant ships.*" Of the mortality, he thus speaks: "The wreck of the *San Francisco* occurred on the night of Friday the 23d, and morning of Saturday, the 24th December. On Wednesday, 29th, about one hundred of those who survived the storm and wreck were taken off by the *Kilby*. It is somewhat remarkable that, among the rescued of this company, though they suffered many hardships, and were on short allowance, no death occurred. On the 30th, cholera appeared. January 5th and 6th the survivors were transferred to the *Three Bells* and *Antarctic;* during this period about sixty died. Of 750 persons who embarked in the ill-fated steamer, 130 were washed overboard, 90 perished by cholera, and 530 reached New York in safety, after heavy privations and hardships.

The Medical Examiner, under the editorial management of Dr. Hollingsworth, sustains its character and usefulness; he is assisted by a strong corps of collaborators. In the May number there is a well compiled and interesting paper on the mortality of Philadelphia. The following remarks are most worthy of attention:

> "Exclusive of still-born, external or accidental causes, old age, debility, and unknown, we have left 2,140 deaths from recorded diseases, distinguished by 148 different names; many of them, it is true, almost as indefinite and as obscure for scientific purposes, as those set down under the head of debility or unknown. The loose and imperfect plan of certification, in cases of death, is justly to be deplored; nor until there is a more discriminate system substituted for the present *generalizing* practice, can we have for reference an intelligible and profitable record.

The Medical News and Library, valuable for its own peculiar contents, is always rendered more so by the incorporation of sixteen pages of some work in course of republication. By this means many become possessed of valuable books at a very reasonable rate. Bennett on Tuberculosis is the work at present in course of issue.

Virginia Medical and Surgical Journal.—A recent change has occurred in the editorial corps of this journal. Dr. Otis, for some time most favorably known to its readers, relinquishes his former position in consequence of his removal to another locality, but is still associated with the journal as corresponding editor, and will, we presume, continue his translations from the foreign press. He is succeeded by Dr. J. F. Peebles, of Petersburg, of whom report speaks most favorably, and who is not unknown in the records of professional literature.

On the 25th of May an election to fill two chairs in the Medical College of Virginia took place. The chairs had been thrown open under the new charter of incorporation to free competition. There were seventeen candidates, and the result has been the appointment of Dr. BEVERLY R. WELLFORD, of Fredericksburg, to the chair of Materia Medica, and M. BROWN SEQUARD, to that of the Institutes of Medicine.

In the last number there is an article by Dr. Anderson, in continuation of some papers formerly published in the Stethescope, on "what he conceived to be the fundamental principles upon which all medical investigation must ultimately be based, in order to arrive at just and scientific conclusions." Having promised to make a practical application of this principle, he proceeds to do so by the present paper on fever. "I am aware," says Dr. A., "that I shall be occupying a position antagonistic to nearly the entire profession. But a desire to strip our science of some of the mystery which has been most improperly and unnecessarily thrown around it, as well as to attract the attention of other and abler minds to this subject, is my sole apology for this adventurous step." We confess that the mysticism has been rather increased than otherwise by a perusal of this document; we shall, however, try it a second time; we may then be able more fully to comprehend it. He does not believe in idiopathic fever, nor in continued fever, fancies there may be a specific virus generated, and is perfectly certain of the *localization* of fever. And, therefore, to cure fever, we must get rid of the previously existing inflammation.

The Stethescope has also changed hands. Dr. Gooch, who raised it to its position among the journals, having left it entirely, it has become the property of the Medical Society of Virginia, conducted for the first four months by Drs. Hoxall, Bolton, Lewis, Merritt, and Cabell, with whom, since May, have been associated Drs. Wilson and Higginbotham. We regret to find in the report of the proceedings of the society, a spirit of party and a *force* of language little calculated to promote scientific truth and professional fellowship. Men may surely differ in opinion without making that difference a source of discord. In the May number is a very able paper by Dr. Peebles, one of the editors of the *Medical and Surgical Journal*, on intermittent fever. This Essay obtained the prize offered by the society.

In the editorial of the June number, the following *rather* caustic character is drawn of the condition of the profession:

> "We know there are *hoary-headed sinners* and apt fledglings, their pupils and imitators, who have been smuggled in our ranks—men who spend their lives in envy of the well-earned reputation of a high-souled neighbor; whose exploits are confined to undermining insinuations and sneaking forays—land-pirates and professional petty larceners—(we are describing a genus of many varieties, and would not confess to their existence, if we were not inditing a *confidential* FAMILY EPISTLE)—men whose only talent is displayed in the adroitness with which they cover up their deeds and confine themselves to such small operations as give them immunity from the cowskin—hypocrites without shame, and liars without remorse."!

The remedy proposed by the Stethescope for ridding the profession of such ensamples, or rather, keeping them out of it, is "the establishment of local societies, and the *practical* and stern enforcement of the provisions of our code of ethics." ‡

A WORD TO THE NON-MEDICAL PUBLIC.—It is fairly to be presumed that some of our citizens, not within the ranks of the profession, occasionally look over the pages of the MONTHLY; we therefore design the following remarks for their especial benefit. We are actuated to take this course also from the recollection of an observation overheard by us, perhaps inadvertently made in our presence, that there never was anything in the MONTHLY which a layman could read with profit. Now, we are not prepared to admit the justice of this remark, nor is it our present intention to refute it by argument and illustration; we simply use the occasion and the remark, as the text of what we desire to say to our lay friends. The alarm taken by the community at the approach of epidemic cholera, frequently suggests to the mind of patients the necessity and prudence of taking their physician's advice upon the subject of their regimen and diet: and occurring, as at present, at a season of the year when fruit is plentiful, no question is more frequently asked than, "Doctor, can I eat fruit?"

To our mind the question, "Doctor, can I sleep?" would appear to be as proper and as wise.

If we contemplate the harmony and order which prevail in the recurrence of the seasons, and the productions of a vegetable character peculiar to each, we must arrive at the conclusion that, in providing so great a variety, in such abundance, and of such grateful and pleasant qualities at this season of the year, God in his wise providence intended that his creatures should avail themselves freely of his abundance and goodness. We find not only this peculiar supply granted to us in our climate at this season, but we observe that in other countries where the climate more or less resembles our summer, the same benevolent provision of succulent and nutritious fruit obtains. Nor is this all that can be said—for it is now generally well understood by all intelligent people, that there are in every climate, and at every season, certain productions which are peculiarly adapted as correctives, possessing, in fact, medicinal as well as nutritive properties, in addition to their palatable qualities. The spices and condiments of tropical climates, more sparsely produced in temperate regions—produced, in fine, in proportion to the amount and kind of vegetable diet growing and employed by their inhabitants; the juicy, subacid, and fragrant orange and berry tribes, so plentiful in hot seasons—the former in tropical, the latter in temperate countries; the melon common to both; *cum pluribus aliis.* We have written enough for illustration; our deduction from these examples is, that all this wholesome and abundant supply of nutritious and beneficial articles of diet, has been bestowed designedly for our use, under the circumstances when they are most required, and that, therefore, it is not only right to eat fruit at this season, notwithstanding the cholera, but that it would be wrong and ungrateful to abstain from the use of that which was intended for our benefit and gratification.

Having said so much, it is necessary that we should say something more. While advocating the *use* and enjoyment of fruits in their season, we must not be supposed to give countenance to the *abuse* of them. Let us be explicit, and show what we consider to be the abuse which we thus strenuously repudiate.

Partaking immoderately, even of the ripest and best fruit, is as injurious as drinking to excess, opium eating, or surfeiting of any kind.

The eating of *unripe* fruit, too much the custom, even when prepared by the most skilfully conducted culinary operations, and enticingly presented in the garniture of paste and frosting is unsafe.

Eating fruit at improper hours, ripe as well as unripe, is highly pernicious. How injudicious, for instance, to partake of a full repast of fruit immediately before retiring to rest? The nervous supply required by the stomach to carry on digestion, is undoubtedly materially diminished, if not altogether withheld during the hours of sleep. The old nursery adage, "Fruit is gold in the morning, silver at noon, and lead at night," is not without its wisdom and pertinency.

Eating fruit, which, however palatable, is found by experience to produce any unpleasant effects upon the system, owing to some peculiarity (what we doctors call idiosyncrasy) of the constitution, should be resolutely avoided.

Finally, eat fruit moderately, and at proper times; let it be perfectly ripe, yet not decaying: and we venture to predict that if you take the ordinary precautions used by all prudent persons, at all times, but particularly during the prevalence of epidemic diseases, viz., cleanliness, exercise, sufficient rest, moderation in diet, and abstinence from all sources of exhaustion and nervous prostration, taking care at the same time not to expose the person unheedfully or unnecessarily to the influence of infected localities—and we have no doubt that you will run no greater risk of contracting or dying from the disease, than you would do were you entirely to abandon the participation of those beautiful and pleasant gifts of the Creator's bounty—"the fruit-tree yielding fruit after his kind, whose seed is in itself," "every tree that is pleasant to the sight and good for food." ‡

COUP-DE-SOLEIL, OR SUNSTROKE.—In connection with the purpose of the foregoing article, we append a few general hints on a severe and not unfrequently a fatal casualty, which is apt to occur during the hot months of our summer, especially in a crowded city, and principally among those engaged in active and violent exertion while exposed to the rays of the sun, and hence called *coup-de-soleil*, or *sunstroke.*

Many fatal errors are committed in the first moments of alarm on the occurrence of this accident,—errors, the evil consequences of which all the subsequent skill and care of the physician are sometimes ineffectual in remedying. The prominent symptoms of the attack are giddiness, faintness, amounting in some instances to complete insensibility or apparent death.

The first and the best thing to be accomplished, is to remove the patient into a cool room or shady spot, laying him carefully on the back, with the head very slightly, if at all, raised. *Send for a physician.* Sprinkle the face with cool water, untie all strings, handkerchiefs, or bandages from the throat, chest, or waist. Rub the hands and feet briskly, and if the patient can swallow, administer a little brandy and water, or a little spirits of hartshorn in water, *in small quantities at a time.* Promote free respiration by fanning and preventing the crowding of persons around. Prevent strenuously the drinking of large draughts of cold water, however urgent the request of the patient may be, until reaction takes place.

If there should be any delay in the arrival of a physician, and the patient should not rally, the rubbing of the limbs must be continued, and in addition, mustard poultices may be applied over the soles of the feet and the pit of the stomach, and an emetic of mustard and water may be administered, particularly if the patient, as is too often the case, immediately previous to his seizure, has been drinking cold water in large quantity. Such precautions judiciously, consistently, and perseveringly used, will frequently restore animation and produce reaction, after which the patient must be treated by a physician. ‡

Errata.—By some accident, two or three errors crept into the report of the proceedings of the A. M. Association last month. On p. 470, eighth line from the bottom, for Dr. *Dowell*, read Dr. *Mc*Dowell. On p. 472, for Dr. *Jayne*, read Dr. *Sayre.*

Massachusetts General Hospital.—During a recent visit to Boston, we had the pleasure of carefully inspecting this Institution, by the kind attention of Dr. M. S. Perry, one of the medical staff. It is small, at least compared with the hospitals of this city, but is most admirably arranged, especially in the newer parts of the building. There are four wards containing twenty beds each, with several smaller rooms, the accommodation being in the whole about one hundred and twenty-five beds. The larger wards are very handsomely finished, the walls being painted in imitation of Sienna marble, and kept very neat and clean, while the tidy white counterpanes gave to the beds a much pleasanter appearance than the usual blue and white check. Ventilation is well provided for; and we were informed that the air of the wards is almost invariably free from everything offensive. The kitchen and laundry are in a separate building, and are models worthy of imitation. A new building is to be constructed for the reception of patients laboring under contagious diseases—these not having been heretofore received by this hospital. The Institution well repays one for the time spent in visiting it.

St. Luke's Hospital.—On the 6th of May the corner-stone of this new hospital was laid by the Right Rev. Bishop Wainwright. The location is on Fifth avenue, between Fifty-fourth and Fifty-fifth streets, and about four miles from the City Hall. The idea of the hospital was conceived by the Rev. Dr. Muhlenberg, and it is very much to his exertions that the enterprize owes the success it has met. It is an institution of the Protestant Episcopal Church, and we presume its medical staff will be selected from among Churchmen. Still, its doors will be open to all the sick, irrespective of nation, creed, sect, color, or name.

The building, which is to be of brick, will consist of two wings, with a chapel between. In each wing there will be two wards, capable of receiving comfortably fifty beds a-piece. The estimated cost of the whole is $150,000. The following are some of its dimensions: Whole length of the building, 280 feet; depth of wings, 66 feet; depth of chapel, 83 feet; internal height of wards, 14 feet.

CORRESPONDENCE.

[The following letter is from a correspondent at the East, and we shall be happy to receive similar intelligence from any other section of the Union.—EDITOR A. M. M.]

Concord, N. H., June 7, 1854.

MR. EDITOR:—

The New Hampshire State Medical Society has just held its anniversary at this place, and a brief account of its proceedings may perhaps be acceptable to the readers of your journal.

This State Society is one of the three or four oldest in the country, this being its sixty-third annual meeting. It was never in so flourishing and influential a condition as at present, and never before received so large an accession of new members at any anniversary, as at this. It has never, however, included a majority of the practitioners in the State; though it has always, I believe, included all whose reputation as practitioners extends beyond its limits.

The Society was in session during the whole of yesterday, and the forenoon of to-day; and I can therefore only glance at some of the most prominent of its transactions.

The annual address by the President, Dr. Albert Smith, Professor of Materia Medica, in Dartmouth College, was a very able and interesting performance, and both written and delivered in the author's characteristic, agreeable style. Its subject was "Conservatism in Medicine." Dr. S. would guard us against the ultraism of the various newer phases of quackery on the one hand, and the equally absurd reverence for whatever is old, merely *because* it is old, on the other. The idea so often inculcated, though so absurd, of studying *old medical books*, to the neglect of recent publications, was particularly noticed as productive of much mischief and loss of time. In the course of his address, the motto of the MONTHLY—"*Non progredi est regredi*,"—was introduced; and in a way that the journal received no detriment at the speaker's hands.

Dr. Mussey, of Cincinnati, being present, was desired to make some remarks after the President had closed, and responded to the request in a concise and very apposite manner. He was one of the oldest living members of the Society, and had for several years been its President, while resident in this State. In the course of his remarks, he observed that on the whole, he thought he felt glad that he had chosen the practice of medicine as his profession. There is not one of the many thousands who know him, who will not cordially sympathize with him in this feeling. And how delightful to see in our profession such an example of modesty and integrity—of the highest professional, combined with the highest moral worth—as here stood before us! He seemed in perfect health, and though now having passed the limits assigned to human life, is still actively performing all the arduous duties of a large practice, and all the most difficult surgical operations, still manifesting a "green old age," which abates not in the scientific enthusiasm which characterized his earlier years, and keeps pace with all true progress in the various departments of medicine. May such an example long be preserved to us.

"Serus in cœlum redeas, diuque,
Lætus intersis populo."

Gov. Martin responded to the remarks of Dr. Mussey; and, with a felicity of expression and manner which but few governors can be found to imitate, thanked him for the instructions he had received of him when a medical pupil, and accorded to them a predominating influence upon the whole course of his life, and the success of his professional career.

It is a fact not without interest, that Maine and New Hampshire were both *governed* by physicians at the same time—Dr. Hubbard, of Hallowell, being the chief magistrate of Maine, and Dr. Martin, of Dover, of New Hampshire. And both of these gentlemen, after doing honor to the gubernatorial chair, for two years, have resumed the higher duties of their profession, from which they had for a time withdrawn in obedience to the suffrages of their fellow citizens.

The orators elect for this anniversary were Dr. A. McFarland, formerly Superintendent of the State Lunatic Asylum, and Dr. W. H. H. Mason, of Wolfborough. The former gave an elegant and elaborate essay on the "Practical Element in Medicine." Dr. Mason's subject was, "The Importance of Chemistry and Microscopy as Aids in Diagnosis and Therapeutics;" and his discourse was pointed, discriminating, and highly practical.

Several interesting discussions occurred during the session. One was elicited by the statement, by the Secretary, that Dr. Wm. Prescott, an *honorary* member, I believe, has of late been giving his influence in promoting the sale of a certain nostrum (some kind of "Catholicon," if I mistake not). A resolution was adopted requiring him to render an explanation to the Society of the course he had pursued. Some thought this a case in which more honor was conferred than returned.

The interesting account of the progress of Homœopathy, in a certain part of the State, where it had had the whole field to itself for several years past, was also given. It appears that it is here evidently dying out, though it has had everything in its own way. We have only to stand entirely aloof from it, as a profession, and it will die spontaneously, in a brief space of time, throughout the land. But so long as the regularly constituted medical colleges will, for *pay*, confer diplomas upon those known to be intending to engage in this system of irregular practice—so long it will attach itself to the profession and eke out an existence. A committee was appointed a year since, to ascertain the names and plans of graduation of all the practitioners in the State, and reported, in part, at this meeting. When it shall have completed its labors, it will appear what schools are most instrumental in encouraging this phase of irregular practice. I am happy to say that the Medical College in this State has, for several years, refused to examine for the degree of M. D., any who intend to engage in any other than the regular practice of medicine. This Society is determined to keep aloof from all uncleanness of this kind, and in this respect, perhaps, deserves the consideration of its sister institution in Massachusetts.

Numerous practical subjects were also discussed; but I will bring this hasty notice to a close.

The principal officers for the present year are: J. S. Fernald, Barrington—*President;* A. Smalley, Lyme—*Vice President;* E. K. Webster, Boscawen—*Secretary.*

NEO HANTONIENSIS.

NORTH GEORGETOWN, COLUMBIANA CO., OHIO,
June 19*th*, '54.

* * * * * * *

Since I commenced practice in this place I had a case which, on account of some of the symptoms during life, and postmortem appearances, was interesting to me at least.

It was a case of abdominal dropsy. The history of the case was much as follows: Mr. F——, aged 49, about twenty years ago had a severe attack of bilious remittent fever, since which there was constantly more or less sallowness of the skin, though he enjoyed a reasonable degree of health, with the exception of frequently having extremely severe pains in the loins, at which times the urine was scanty and very high colored. Last fall the pain in the back ceased; and in a short time there came on an obstinate diarrhœa, accompanied by very severe pains in the bowels, especially in the lower part of the rectum. The diarrhœa stopped in December. Some time in January the patient discovered that his abdomen was enlarging; he then applied to quacks and quack nostrums for relief, but obtained none. About the first of April he fell into the hands of Dr. Brenton, now of Massillon, at that time residing in this place; the Doctor tells me that at that time, according to the best of his judgment, there was as much as ten gallons of water in the abdominal cavity, with considerable œdema of the lower extremities. He, Dr. B., put him on a course of diuretics, which, by the first of May, when I took charge of the case, had reduced the enlargement about one-third. I used digitalis, squill, cantharides, spirits of nitre, ether, cicuta, mercury, and bitartrate of potash, which reduced the enlargement considerably. At one time, after he had been on digitalis about three weeks, the pulse fell to thirty-two beats in a minute, and remained as low as from that to thirty-four for about a week after the discontinuance of the medicine, when it gradually rose up to eighty a minute; in six or eight days more, during my attendance, he had frequently excessively severe pains in the lower part of the abdomen, and in the rectum and anus; the pains seemed spasmodic. As I did not wish to get the system under the influence of opium, I used other means to remove and prevent the pain, such as the internal use of hyosciamus and cicuta, the external application of belladonna, chloroform, and heat, the latter appeared to be the most efficient.

He died on the 6th instant. I made an autopsy about twenty hours after death, assisted by my friend and preceptor, Dr. Carey of Salem, Dr. Brenton, of Massillon, Dr. Sturgeon and other gentlemen of this place being present. We found about one and a half gallons of serum in the abdominal cavity, and the most perfect specimen of cirrhose or hobnail liver that could be exhibited; the mucous follicles of the large intestines bore marks of ulceration through their whole extent, being particularly well marked in the lower part of the rectum. There was but one kidney, the right one being entirely wanting; the left was about twice the ordinary size, having two pelves and two ureters, and was perfectly healthy.

Query.—What was the cause of the excruciating pain of which he had frequently complained for years? Was it caused by the bile remaining in the blood, and thus irritating the kidney?

I remain your friend,
John G. Miller, M. D.

Wurtzburg, April 6th.

A series of interesting experiments was made yesterday on the corpse of Gensler, who was put to death by the sword, for having committed murder by poisoning. Professors Wirchow, Kölliker, Müller, and Leidig, made microscopical and galvanical observations, the most prominent of which are: the microscopical representation of the ciliary movements in the third ventricle of the brain; further contraction of the iris by application of galvanic stimulus; and beautiful representation of muscular longitudinal stripes on a vein of the lever. Also, on the cremaster, which showed contractions for a longer time. The muscles of the thorax contracted for an hour after the decapitation. The corpse was subjected to anatomical investigations twenty-eight minutes after death. The temperature of the spot where the head was separated from the trunk was yet 29° R., whereas that of the room was 21° R. The head was separated from the trunk precisely at the atlas.—*Neue Med. Chirurg. Zeitung.*

From the Lower Danube, May the 8th.

The French and English Surgeons from Varna, visited our camp, and it is decided that wooden barracks should be established for the medical camp service on certain strategetical points. Kinstendshe, Varna, Eski, Schumla, Rasgrad, and Sophia, are chosen as places for the chief hospitals for the Europeans. The English erect their hospital at Varna, on an elevation commanding the town and port. The French established it in Schumla; the Turkish chief hospital is at Kutkzuk, Kainardschi.

Wien. Med. Wochenschrift.

THE following circular has been issued by the Treasurer of the National Association, and explains itself. We copy it for the benefit of those who may not receive a copy, calling especial attention to the fact that payment should not be delayed.

At the meeting of the American Medical Association, held at St. Louis, in May last, the following resolutions were adopted, viz.

Resolved, That the sum of three dollars, annually, be assessed upon each of the Delegates to the Sessions of the Association, as well as upon each of its permanent members, for the purpose of raising a fund to defray the expense of printing the Transactions. The payment of this assessment shall be required of the Delegates and Members in attendance upon the Sessions of the Association, previously to their taking their seats and participating in the business of the Session, and of all others, on or before the first day of September, in each year.

Resolved, That each Delegate and Member who has paid his annual assessment, in accordance with the terms of the above resolution, shall be entitled to receive a copy of the printed Transactions of the Session.

Resolved, That the name of no one shall be inserted or continued on the list of permanent Members of the Association, who shall refuse or neglect to pay his annual assessment, in accordance with the terms of the first resolution.

The immediate attention of all members who have not complied with the requisitions contained in the above resolutions, is respectfully, but earnestly requested. The Publishing Committee, of which Dr. Pliny Earle is chairman, is desirous of putting the Transactions to press as soon as practicable; this cannot be done, however, until some idea can be formed of the number of copies required, and *this* can only be arrived at, from the number of members being known, who have actually paid the assessment alluded to. It will be observed, should any member delay payment until the first of September, he may be unable to obtain a copy of the Transactions.

Members will please be particular, when sending their dues and orders for copies, to give the name of town or city, county and State, as well as their own names, clearly and distinctly written, in order that mistakes may be avoided in transmitting the volume,—also, express their wishes as to the mode of forwarding the Transactions.

Respectfully,
ISAAC WOOD, *Treasurer*,
68 East 17th street.

New York, June 13th, 1854.

THE AMERICAN
MEDICAL MONTHLY.

AUGUST, 1854.

PART I.—ESSAYS, MONOGRAPHS, AND CASES.

Foreign Bodies in the Respiratory Passages. A few cases, illustrating the length of time that foreign bodies may remain in the trachea and bronchus without causing fatal lesions. By E. H. Davis, M. D., Professor of Materia Medica and Therapeutics in the New York Medical College.

M. Jobert de Lamballe read a paper some time since, before the French Academy of Sciences, in which he submitted many valuable conclusions upon this subject, in most of which, I think, the experience of the profession will bear him out; yet, I cannot wholly subscribe to the 20th inference, which is as follows:—

"That the operation of tracheotomy is indispensable in almost every case of the introduction of a foreign body into the air-passages, and that it is only in exceptional cases that the operation can be dispensed with."

From my own limited experience, as well as facts drawn from the medical literature of the past twenty years, I am satisfied that many cases have been, and may be relieved without an operation—simply by adopting the valuable suggestions of M. Brunel, the engineer, in his celebrated case. Although Sir B. Brodie (who reports the case) deemed it best in this instance to operate, yet the plan has proved successful in the hands of Duncan, and Simpson, of Edinburgh, as well as in some instances in this country.

I will relate a few cases which have occurred in my own practice, and then cite some from other sources, to illustrate this position.

Case I. A son of James Hughes, Esq., of Ohio, aged about ten months, was playing on the carpet with some citron-melon seeds. Putting them into his mouth, he accidentally drew, as was supposed, *one* of the seeds into the trachea.

I found him, twenty hours after the accident, with paroxysms of suffocation recurring at short intervals. During the fits of coughing, I could distinctly hear the foreign body move in the trachea.

I determined to perform tracheotomy, and remove the foreign body, if possible.

On opening the trachea, a fit of coughing ensued, when out flew a melon seed through the incision. The child being then quite easy, I dressed the wound, and left him in the hands of the family physician.

Some days subsequently I received a letter, stating that paroxysms of dyspnœa (somewhat similar to those occurring before the operation) had returned, and which could not be accounted for by the attendants. Supposing them to be occasioned by an accumulation of mucus, I merely gave some simple directions with regard to the position of the patient, and advised expectorants. But the paroxysms continued to occur daily for a period of ten days, when finally the child coughed up a *second* melon seed. All unpleasant symptoms then ceased, and the patient recovered rapidly.

Case II. In the summer of 1846, a boy, eight years old, was playing on the tongue of a wagon with a broken nail in his mouth. In falling over the pole, he drew the nail into his trachea.

Various physicians in the neighborhood were consulted, who were sufficiently convinced of the presence of a foreign body to recommend an operation. Accordingly, on the third day after the accident, he was brought to me for that purpose. I found him laboring under some difficulty of respiration, especially in the right lung. But as the stethoscope revealed nothing, and the symptoms were not urgent, I dismissed the patient, with directions to assume an inverted position during the paroxysms of coughing, in hopes the foreign body would be spontaneously dislodged.

Ten days afterward, he returned with the symptoms so much aggravated that, after consultation with some medical friends, I determined to operate. As the substance was iron, and, from all the symptoms, had settled down into the right bronchus, we procured a pair of forceps, with long and delicate blades, especially for the occasion.

After opening the trachea in the usual way, I made several explorations in hopes of finding the foreign body, but without success. The irritation was so great on introducing the forceps, that we desisted from further attempts until the following day, when we were still unsuccessful. The wound was then lightly dressed, and the patient sent home, with the following directions:—That, during each paroxysm of coughing, he should incline his body forward, with his head downward, and be struck with violence between the shoulders.

On the ninth day after the operation (and whilst in the position recommended), the patient coughed up the head of a tenpenny nail, with about three-quarters of an inch of the body attached. It was firmly inclosed in a globe of mucus. He then rapidly recovered, and has remained well for years.

Case III. J. W., 16 years of age, clerk in a store, consulted me about six years since—stated that he was in the habit of chewing coffee grains and that two months previously, whilst laughing, he thought he had drawn a grain into his trachea. He was annoyed by violent paroxysms of coughing, pain in the right side of his chest, with some dulness on percussion, but not attended with much expectoration.

Not deeming the symptoms sufficiently grave to demand an operation, I simply advised the patient to assume the position, during the paroxysms, recommended above. Four weeks after, during a fit of coughing, half a grain of coffee, involved in mucus, was ejected, when the young man speedily recovered.

Case IV. Miss B. suffered for one year with all the symptoms, apparently, of pulmonary consumption. Finally, after being confined for weeks to her bed, and hourly expecting dissolution, she coughed up a splinter of beef bone. She then recalled the circumstance of being choked by a piece of bone, whilst taking soup at dinner—from which date her ill health had commenced. After being relieved of the foreign body, she gradually regained her usual health, which has continued for years.

I will now condense a few cases, showing not only the length of time foreign bodies may remain in the trachea, but also that very distinguished surgeons have frequently failed to find the offending substance, even after an operation.

A case is reported in the *Journal Hebdomadaire*, of a man who presented himself at the Beaujon in Paris, in June, 1829. In using a needle about his nostrils, he allowed it to slip backwards into the windpipe. Various unsuccessful attempts were made to remove the needle. On the sixth day after the accident, M. Blaudin performed tracheotomy, but did not succeed in finding the needle. Thinking it possible that in a fit of coughing it might be expelled, he merely covered the wound with a piece of linen, perforated with holes, and spread with cerate. The result realized his expectation; for, on the following day, the needle, much corroded, was found adhering to the compress.

Dr. Wells, of Columbia, S. C., reports the case of a child, four years old, who, in Sept. 1833, suffered a melon seed to pass into the trachea. The patient was brought to Dr. W. six days after the accident occurred. He found that breathing had become permanently difficult and croupy, attended by other unpleasant symptoms. He performed tracheotomy at once. When the air rushed from the opening, the seed, with some bloody mucus, was ejected.

Dr. Drake communicates a case of laryngotomy performed, the same year, by Dr. McCulloch. The subject was a child, two years of age, who, in playing with a grain of corn, allowed it to pass into the trachea. Laryngotomy was performed on the second day, but without success. The child lived six days after the operation. After death, the grain of corn was found in the trachea, imbedded in mucus.

One of the most remarkable and interesting cases on record is that (so often quoted) of Mr. Brunel, engineer of the Thames Tunnel. He was attended by some of the most distinguished surgeons of London. The following abstract is from Sir Benj. Brodie's report.

On the 3d of April, 1843, Mr. B., whilst amusing some children, allowed a half-sovereign to slip into his trachea. Severe fits of coughing succeeded, together with some pain in the right side of the chest. No unusual sounds were detected by the stethoscope. The patient was able to pursue his usual occupation, and made two journeys.

On the 19th of the same month, he the second time tried the experiment of placing himself in the prone position, with the sternum resting on a chair, and his head and neck much inclined downwards. While in this position, he distinctly felt a loose body slip forward along the trachea.

An apparatus was then constructed, with a hinge in the centre, so that one end being elevated, the other was equally depressed. On the 25th of April, Mr. B. was laid on this platform with his shoulders and body confined by a belt. His head was then lowered at nearly an angle of 90 degrees, his back was forcibly struck several times with the hand, which produced such violent fits of choking, that it was thought prudent to desist for the time.

On the 27th, tracheotomy was performed, with a two-fold object in view:—1st. That an attempt might be made with the forceps to extricate the foreign body; or 2dly, if that failed, the opening might serve as a safety-valve in repeating the experiment of inverting the body. All attempts to remove the coin with the forceps were unsuccessful, as each introduction of the instrument induced such violent paroxysms. Further trials were postponed until the 2d of May, which were followed by like results.

On the 13th (the wound being kept unclosed), the patient was placed on the platform as before described, and struck on the back. He soon felt the coin quit the chest, striking almost immediately the incisor teeth, and dropping from the mouth.

From this date, the patient got rapidly well.

Dr. Thornton, of Henderson, Ky., communicates the case of a child twenty-one months old who had drawn a bean into the larynx, where it had remained some weeks before he operated. After extending the incision as far as possible, he yet found it impossible to dilate the blades of the forceps sufficiently to seize the bean—so was compelled to force it with a bullet-pointed probe through the rima glottidis.

A boy, thirteen years old, got a pebble into his trachea, and was sent to Guy's Hospital. At first, as he showed so little uneasiness, mere quiet was prescribed—the patient being closely watched. A day or two afterwards respiration was nearly stopped in the left lung, and when the patient coughed, the movement of a foreign body was heard. The operation of tracheotomy was resolved on, and performed by Mr. Bransby Cooper. The boy was inverted and struck forcibly on the back, when the pebble escaped through the wound. (We do not learn from the report that this course was attempted previous to the operation.)

A girl, seven years old, with a sheep's tooth in the bronchus, was admitted into the Stockport Infirmary nine days after the accident. Tracheotomy was performed. Soon after a fit of coughing ensued, which forcibly expelled the tooth through the wound.

Dr. J. Mason Warren recounts three interesting cases of foreign bodies in the air-passages, two of which will be adverted to hereafter.

The first is that of a little girl, eight years old, into whose trachea a garden-bean entered whilst she was laughing. Tracheotomy was deferred, in hopes the body would be spontaneously discharged; but, after two days, symptoms of suffocation were manifested. The operation was then performed, and the bean, much swollen, removed with great difficulty.

Many other cases might be recounted of operations by distinguished surgeons; but these are sufficient for my purpose.

I next select a few cases where the foreign body has been ejected from the trachea spontaneously, or aided by the plan already alluded to.

M. Malsh-Tagarnaud reported to the Academy of Medicine in Paris an interesting case. The subject of it, a woman fifty-eight years of age, had been laboring under a cough for four months, for which she could assign no cause, nor was any thing learned by auscultation. The cough recurred every eight or ten days, lasted one or two minutes, and was unaccompanied by fever or expectoration. The symptoms continued without change for five months longer, until finally, in a fit of coughing, she expelled a cherry-stone, encrusted with calcareous matter to the size of a filbert. She then remembered that the first attack occurred when she was eating cherries.

A similar instance of a cherry-stone encrusted with tartar expelled in a fit of coughing, after being retained in the air-passages a year, is related in the *Ephem. Nat. Cur.*, 1842.

Dr. Duncan, Surgeon to the Royal Infirmary, Edinburgh, relates a case of an accident which occurred to a man who was amusing himself by tossing up a shilling and catching it in his mouth, when it slipped into the larynx. Violent coughing with great dyspnœa ensued, but after a time subsided. From the favorable result of Sir Benj. Brodie's case, it was resolved to try inversion of the body. However, instruments were kept in readiness, in case the shilling should change its position so as to produce suffocation. Three strong men seizing the patient by the loins and thighs, inverted him suddenly, Dr. Simpson at the same time moving the larynx rapidly from side to side. The result was entirely successful, the piece of money soon passing into the mouth, and out upon the floor.

Dr. Duncan has collected numerous cases of the spontaneous expulsion of foreign bodies from the air passages, from which we abstract some of the most interesting.

Mr. R., æt. 42, in February, 1841, whilst at dinner, let a piece of bone slip into the trachea. A troublesome cough, and other pulmonary symptoms ensued. Four years afterward, the unpleasant consequences having increased, he went to Edinburgh for consultation. On the second of March, 1845, he was seized with a violent fit of coughing, and a small piece of bone was discharged. The paroxysms still continued, and in half an hour a still larger piece was ejected. From this time the symptoms improved. He began to rest well at night; and, although the cough and expectoration continued troublesome for a time, he was perfectly recovered in June.

This case is remarkable from the length of time the foreign body remained in the air-passages, and the complete recovery which followed its ejection.

Another case is that of a boy, who had drawn a piece of wood into the trachea, which at first lodged in the right bronchus. At the end of four weeks the foreign body was thrown up from the bronchus into the trachea. As there appeared no particular danger, Mr. Plant (surgeon of the Dublin Hospital), trusting that as it had been thrown from its first situation it might be also dislodged from the trachea, deferred operating. At the end of the fifth week this did happily occur, and the boy rapidly recovered.

Still another, of a girl, who, in eating soup, allowed a piece of bone to slip into the trachea. Hæmoptysis, with purulent expectoration, followed. But, at the end of four months, the bone was coughed up, and the girl recovered.

A case occurred in which a nail passed into the trachea of a man sixty-five years old. Severe pulmonary symptoms ensued, and the life of the patient was despaired of by the faculty. But in three months after the occurrence the nail was coughed up, and the man recovered—was alive twelve years afterward, though subject to frequent pulmonary affections.

In a case related by Dr. Lettson, the covering of a button remained in the air-passages for eight months, when it was coughed up and the pulmonary symptoms subsided.

The admission of an ear of grass into the air-passages is not an unfrequent accident, and always occasions distressing symptoms. Dr. Donaldson, of Ayr, relates a case of this description, where the grass remained in the right bronchus for seven weeks, giving rise to intense bronchitis. It was then expectorated, and the patient recovered.

Dr. Pitcairn relates one more remarkable, from the length of time (twenty-two months) the grass remained in the air-passages, and the obscurity of the case, as the patient did not mention the accident. He was a child between five and six years of age, and was recovering from an attack of pertussis when the head of grass was drawn into the trachea. He was seized with an attack of acute bronchitis, which, when subdued, was followed by chronic symptoms. When much emaciated, he was relieved finally during a fit of coughing, when the ear of grass, enveloped in thick, fetid, and bloody pus, was ejected. The boy then remembered the occurrence.

My colleague, Prof. Barker, mentioned to me a case, which occurred in his practice, of a child who drew a head of herds-grass into the trachea, where it remained for some months and was ultimately expectorated.

Dr. Warren reports the case of a young woman, who had a pin lodged in the larynx. Attempts were made to remove it by the finger, and she was bled. While awaiting a renewal of the attempts, the pin was spontaneously dislodged, entered the throat, and was swallowed.

Another, equally remarkable, was that of a boy who swallowed a horseshoe nail. For several days he suffered much from occasional suffocative symptoms, apparently produced by the nail mounting up from the bronchus to the trachea. Dr. W. had determined to operate, when a violent cough, accompanied with the discharge of much stringy mucus, occurred, after which all symptoms of the presence of a foreign body disappeared. It had probably entered the fauces, and been swallowed.

We might go on citing instances enough to fill a volume, if our limits would permit; yet we deem this sufficient, as we may hereafter resume the subject.

In reflecting upon the above cases, as well as experiments upon the cadaver, we feel justified in arriving at the following conclusions:

1st. That foreign bodies are most likely to lodge in the right lung, favored by the dimensions and direction of the right bronchus.

2d. They enter the trachea at the moment the glottis and vocal chords are most relaxed, as during the forced inspiration of laughter, or in the act of sipping liquids.

3d. That most bodies may remain some length of time in the trachea, without producing serious consequences.

4th. That tracheotomy should not be performed until all available means have been used and persevered in to favor the expulsion of the foreign body—such as inverting the body, and striking the back with force, during the paroxysms of coughing.

5th. That where there is immediate danger of suffocation, or where the body is very sharp, angular, or rough, as in many cases reported, then an immediate operation is demanded.

Remarks on the Pathology of Infantile Laryngo-tracheitis, or Croup, as the basis of its rational treatment. By E. R. Peaslee, A. M., M. D., Professor of Anatomy, &c.

ALTHOUGH the readers of the MONTHLY have so recently perused the able article on Croup, by Dr. Horace Green,* the great practical importance of this subject affords a sufficient apology for again so soon calling their attention to it. Moreover, the writer of the present article desires, while Dr. G.'s views are fresh in recollection, to express his own convictions, both from experience and observation, of their correctness, so far as the mischievous consequences of the violent treatment usually resorted to are concerned; while he at the same time proposes certain ideas he has for some time held of the pathology of this disease, and thus attempts to lay a foundation for its rational treatment.

The sanguinary and heroic means generally resorted to in the treatment of croup, would seem to show that it is regarded as essentially different from all other infantile diseases; and hence, the caution and regard for the delicacy of the little patient, which should characterize all medication at this period of life, has apparently been regarded as here out of place. At least, the disease has been too generally treated with an energy—a *desperation* even—which no other opinion can justify.

It is believed, however, that croup may be shown not to be wanting in analogies with other diseased conditions, both in the infant and the adult; and that some salutary, practical inferences will flow from a knowledge of the relations here to be pointed out.

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* See the June No., p. 409–421.

Two varieties of croup are admitted by all writers—the *spasmodic* and the *inflammatory*.

The *spasmodic croup*—otherwise called *false* or *spurious* croup—is merely a *laryngismus;* in other words, it is merely a spasmodic condition (a spasm) of the muscles of the larynx. It is very unfortunate that the word "croup" has ever been applied to this affection, it having but a single symptom in common with genuine croup, viz., the peculiar stridulous sound accompanying inspiration. This should hereafter be termed *laryngismus*, merely, and not croup; and by that term it will be designated in this paper.

The *inflammatory* variety of this disease (with which some degree of laryngismus is always associated), is called *true* croup, and sometimes membranous croup; and more recently has been termed "pseudo-membranous laryngitis."* The last name implies two distinct propositions: 1st. That croup is a laryngitis, *i. e.* an inflammation of the mucous membrane of the larynx; 2d. That this inflammation is accompanied by the formation of a false membrane.

Here, then, are the two essential pathological elements of this disease, and without the co-existence of which, croup does not exist.† But, assuming these propositions, in order to have a definite point of departure, in discussing a subject so differently understood by different writers,—several questions at once suggest themselves.

Does laryngitis occur also in children, as in adults, *without* false membrane? And, if so, shall it not also be termed croup? On the other hand, does laryngitis *with* false membrane occur in adults? And is it *not* here true croup also? Is the actual pseudo-membranous laryngitis of infants and children a *specific* inflammation? And, in this form of disease, does the danger to the patient result mainly from the presence of the false membrane, as seems to be so very generally admitted? or is the inflammation alone often sufficient to produce fatal results?

These, and other inquiries suggested by these, will be answered as we proceed. They have all been variously answered by different writers; and hence we deem it necessary to examine them anew.

1st. Does laryngitis, without false membrane, occur in the infant as in the adult?

We may very summarily dispose of this question, by reminding ourselves that several writers admit a *catarrhal* variety of croup, in which it is confessed that no false membrane is formed. But a mere *catarrh* is an increased secretion from a mucous membrane, from congestion or irritation, or both, and is no evidence of inflammation at all. True membranous croup is often preceded by a mere catarrh of the larynx and trachea; and a catarrh often stops short of true croup. But to term a mere catarrh of the upper part of the air-passages in a child *croup*, while we at the same time admit its inflammatory character, is as objectionable as to term an increased secretion of the Schneiderian membrane (as from the irritation of snuff) an inflammation of this part. And the absurdity of this idea is still further shown, if we decline to term a similar catarrh "croup," when it occurs in the adult; and moreover, hold, with some, that this same catarrh is, in the child, the result of a peculiar—a *specific* inflammation.

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* Some make croup to be a *tracheitis*, instead of a laryngitis. It will be seen; however, that both these portions of the air-passages are, almost uniformly, and even the bronchi also are, not infrequently, affected in succession, or at the same time, in this disease.

† M. Bouchut says, "Sans ce produit [fausse membrane] il n'y a pas de croup." Guerrent and Bretonneau hold the same idea.—*Dr. H. Green on Croup, p.* 5–7.

If there be an actual inflammation, there will in all cases be something different upon the membrane from a mere catarrh. This will be explained further on; and, meantime, we shall object to the term croup being applied to any morbid state in which inflammation is not an element.

Now, regarding croup as always an inflammation, all well know that in fatal cases of true croup, so called, the development of the membrane is not always completed before death ensues. But all analogy favors the presumption that a laryngitis may run through its course and terminate favorably in the infant as well as in the adult, without necessitating the formation of a false membrane in any degree. Inflammations of even the serous membranes are not uniformly productive of false membranes, in either infants or adults; indeed, they are so only in a minority of all the cases. Highly improbable is it, therefore, that inflammation of the mucous membrane of the infant's larynx should always produce a false membrane.

And does it alter the case, if we admit, with some, that croup is a specific inflammation? Not at all, as we shall see when we come to explain the manner in which a false membrane is invariably produced.

Or we are, perhaps, assured that croup is an inflammation mainly of the mucous follicles of the larynx and trachea, and therefore the false membrane is developed. We cannot conceive how, in any case of laryngitis, these follicles can possibly escape the inflammatory process, if we consider either their number or their position. But how they are more likely to be especially attacked in the infant than in the adult, or, if so, why they are in the former more likely to lead to the formation of a false membrane, none of the received principles or analogies of pathology can explain.

Are we told that these follicles when inflamed secrete an albuminous fluid, and this becomes converted into the false membrane? I reply, that the *secretion* (incorrectly so called) is *not* "albuminous," though generally so represented; and that a false membrane, moreover, is never developed from a secretion.

But if the false membrane extends into the trachea, it is found to be thickest on the posterior wall, where the follicles are most abundant. Precisely so; and the true explanation of this fact will be given further on.

Others, still, assert that the false membrane is produced from the fact, that the submucous areolar tissue is inflamed in membranous croup. This, however, is an entirely gratuitous assertion.*

The presumption is, therefore, in favor of a laryngitis not leading to the formation of a false membrane, in the infant as well as in the adult.

And what facts can be found to bear on this question? Do we not meet with cases of supposed membranous croup, in which recovery takes place without the existence of a false membrane having been *demonstrated* at all during the progress of the case? And in how many cases in which the membrane is said to have been coughed up, or vomited up in a "dissolved state," or in the form of "flakes," is it certain that the supposed false membrane was actually such? It is very true that children, up to nearly or quite seven years of age, usually *swallow* whatever they force up through the larynx by the act of coughing. But it is also true, that various substances ejected from the stomach of a healthy child, even, might sometimes be found precisely to resemble these "shreds" of false membrane, so called, which sometimes appear in the circumstances under consideration.

We do not, therefore, by any means deny that shreds of false membrane are often ejected from the stomach during the continuance of true croup: but we do insist that very often they could not be demonstrated to be such, especially if they had remained for a short time in that viscus; and, moreover, that very frequently they would not have been pronounced such on examination even, were they not expected, in such a case, as a matter of course. We accept, therefore, such observations, except when the fragments are distinctly tubular, or of considerable dimensions, with a degree of philosophical doubt; just as we listen to accounts of worms appearing in the alvine evacuations, "cut up" and "dissolved," after giving a vermifuge on the suspicion that they are present in the alimentary canal—though no other previous or subsequent proof of their existence can be adduced.

On the other hand, not infrequently does it occur that in autopsies of fatal cases of what was diagnosticated and treated as true croup, no false membrane at all is found. Had it here become detached, and been expectorated before death? There has been no proof of this whatever.

Such facts, we think, render it extremely probable that in many cases, not distinguishable for any practical purpose from true croup, during life, a *false membrane is not formed at all;* and that, therefore, laryngitis without the formation of a false membrane occurs in the infant as well as in the adult.

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* The writer by no means denies that inflammation of the submucous areolar tissue of the larynx ever exists. On the contrary, "submucous laryngitis" is a well-known disease, and œdema glottidis is a frequent result of it. But croup is another disease, according to all writers, and is here regarded as mere laryngo-tracheitis.

But this point will be still further elucidated, when we have next considered the source from which false membranes are in all cases derived, and the manner in which they are developed.

I. A false membrane is, in all cases, formed from the *plasma of the blood*, and which consists principally of its fibrine. It was remarked, several years ago, by Dr. Alison, that there is, in all inflammations, a *tendency* to the exudation of plasma from the vessels of the inflamed part. We maintain that in all inflammations an exudation actually does occur. It is, however, sufficient for our present purpose, that the plasma is exuded from the engorged vessels of the part and upon the surface, in all cases of inflammation of membranes, at least. Nobody doubts this assertion in regard to serous membranes; and even the purulent discharge (often called a secretion) from an inflamed mucous membrane, is known to be derived from the plasma exuded by a degeneration of the exudation-corpuscles into pus cells. Moreover, if an actual false membrane forms in croup upon the mucous surface, it is equally derived from the same source.

1. The first step towards the formation of a false membrane in croup, therefore, is the exudation of plasma upon the surface of the mucous membrane, as explained, in consequence of the laryngitis. The amount of the exudation will depend upon several circumstances; of which, the state of the blood, the extent of the inflammation, and the vascularity of the part, are the most important. In membranous croup, the exudation is most abundant, and therefore the resulting membrane is thickest, on the surface where the mucous follicles are most abundant; and this, in the trachea, is the case with the posterior wall. The follicles are merely an *inversion* of the mucous membrane; so that here is a great amount of free surface, and a vast number of small blood-vessels inclosed within a very small space. In other parts, the surface is much more smooth, the vascularity less, and thus the exudation, as well as the resulting membrane, is thinner. It has already been asserted, that it is not the secretion of these follicles that becomes organized, nor is the exudation "albuminous."*

2. The second step in the development of a false membrane is the organization of the exuded plasma. But it is very well known that, in the majority of instances, this never takes place, even on serous membranes, and therefore no false membrane is formed.

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* The fact observed by Hasse, that fibrous bands or threads sometimes extend from the false membrane into the follicles, is thus shown to be precisely what we should expect.

In fact, three entirely different results may ensue to the layer of plasma exuded upon the free surface of a membrane in consequence of inflammation; provided it is allowed to remain in contact with it.

1st. It may be entirely reäbsorbed.

2d. It may be converted into pus; exudation-corpuscles being formed in it, and these becoming, subsequently, degenerated into pus cells.

3d. It may become fibrillated (coagulated), and thus form a false membrane; which, subsequently, may become more highly organized; and, in case of serous membranes, even vascular, at last.

Now, either of these results is possible, in case of inflammation of both serous and mucous membranes. In case of the latter, however, the part affected may be so situated as to be brought into contact with foreign substances (as is the case with the mouth, pharynx, and other parts of the alimentary canal); and the exudation may thus become at once detached, and in that case, neither of the three results above-mentioned can ensue. Moreover, the opportunities for reäbsorption on mucous membranes are very slight indeed, and often null.

To illustrate these results in case of a serous membrane: In *pleurisy*, the exudation being reäbsorbed, perfect recovery takes place; if it becomes organized, false membranes and adhesions are the result; or if it is converted into pus, empyema is the result.

Now, the circumstances favorable to the organization of the plasma are:

1st. Its perfect contact with the living tissues;

2d. Perfect rest of the part, or maintaining the required contact, and for the necessary time also;

3d. Smoothness of surface, as also subservient to the first condition.

On the other hand, the following circumstances are unfavorable to organization:

1st. Motion of the part affected;

2d. Contact of foreign substances;

3d. Irregularity of surface.

But there are certain other conditions of the exudation itself, also, which affect the result. The former is more liable to become organized, and the membrane is more perfectly formed, in proportion—

1st. To the amount of fibrine contained in it;

2d. To the slowness (amount of time allowed) of the fibrillation.

Here we should, however, remark, that all the formative processes are in much less time completed in the young than in the adult animal; and it is in accordance with this ultimate fact, that Jurine and other experimenters could artificially produce false membranes in the air passages of young animals alone. In adult animals, the exudation would become detached before its organization was complete.

Now, if we compare the probabilities that an exudation upon a serous membrane will become organized, with those that the same result will occur upon a mucous membrane, we find the former allows—

(1st.) Of a far more perfect contact; since it is smooth, and comparatively or entirely at rest (*e. g.*, remark the immobility of the ribs in respiration, in pleurisy). (2.) It excludes the exudation from the air and from foreign substances. (3.) Allows time for the perfection of the process of organization. (4.) The fact, also, that contact of the exuded plasma with the living tissues occurs on both its surfaces at the same time (being between the two layers of the serous membrane), must not be omitted here. Nor (5) must we fail to add, that in case of inflammations of serous membranes, the blood (and therefore, probably, the exudation also) contains a greater amount of fibrine than exists in it in inflammations of mucous membranes.

Mucous membranes, on the other hand, are opposed to the serous, in all the respects just mentioned. 1. Having a conoidal instead of a delicate, scaly epithelium in most parts (*e. g.*, over the whole respiratory passages, and the alimentary canal from the cardiac orifice of the stomach to the sigmoid flexure), they do not allow of so perfect a contact of the plasma with the living tissue of the membrane itself. 2. They afford contact only on one side of the plasma. 3. In most parts, the plasma is exposed to the air and the contact of foreign substances. 4. There is more motion of the part. 5. All these circumstances afford less time for the organization to occur; so that it may fail of being completed, if commenced. 6. And, finally, the plasma itself is less organizable than in the case of inflammation of serous membranes.

We have no difficulty, then, in accounting for the fact that false membranes occur very much more frequently on serous than on mucous membranes. Nor is there any in accounting for the fact that, in certain cases, they are formed on the latter also, as well as the former.

False membranes have been known to form in cases of inflammation of the rectum, the vagina, the uterus, the nasal passages, the pharynx, larynx, trachea, and bronchial tubes; and in all these parts certain peculiarities exist, more favorable to the organization of the plasma than the mucous membrane in other parts presents. The rectum and vagina have a scaly epithelium, and are comparatively at rest—the rectum, even, being void of fæces and of motion, except during the act of defecation. The uterus, also, allows of still greater rest of the exuded plasma, though it has a conoidal epithelium. The whole extent of the air passages is provided with a conoidal and a ciliated epithelium; but it has no foreign body in contact with it, except the air; and in this respect, and in point of motion of the surface, has the advantage of the alimentary canal above the rectum; where false membranes do not become organized. In children, however, there is less motion still; and, they also requiring less time, we should expect organization to occur more frequently than in adults.

Now, to return to the subject directly under consideration.

In cases of actual laryngitis with false membrane, or membranous croup in children, the exuded plasma becomes to some extent organized—*fibrillated* at least. But can we suppose that this result occurs in every case of laryngitis in the early years of life? If the plasma is often absorbed, and also frequently converted into pus, in case of inflammation of a serous membrane (*e. g.* in pleurisy), can we doubt that either or both these results often occur in cases of inflammation of any and of all mucous membranes? And to say that croup is a peculiar or *specific* inflammation, in order to account for the formation of the false membrane, would, for the sake of consistency, compel us also to invoke a *special* imflammation in those cases of pleurisy in which adhesions occur, while a *common* inflammation will answer if recovery occurs by absorption, or if empyema ensues. Our ideas, then, of the pathology of croup, so far as the answer to the first inquiry has established them, are these:—

1st. An inflammation of the larynx, extending into the trachea occurs; offering in its essential nature nothing different from any other case of inflammation of the same parts, either in the infant or the adult. It is generally preceded, in both infants and adults, by congestion and irritation, and therefore by catarrh.

2nd. An exudation of plasma occurs on the inflamed surface, as in the adult; this being most abundant, in the trachea, on the posterior wall, for reasons already given (p. 92).

3rd. This exudation may be disposed of, in at least two ways, provided it is not at once removed, as it generally is, in adults but not in infants, by coughing; reäbsorption probably very seldom occurring in this disease, though it is not impossible.

a. It may become degenerated into pus (purulent matter,) and thus, of course, at once be detached, which is the most common result.

b. It may become organized into a false membrane. This is more probable if the blood is rich in fibrine (*e. g.* in a plethoric child); if there is but little cough (an adult generally expelling it thus), and if time is allowed for its development (less being required in the child than in the adult) (p. 93).

4th. Croup is, therefore, merely a laryngo-tracheitis in infants and children, and offers nothing essentially different from the same inflammation in adults.* The exudation in case of adults is, however, usually at once ejected by coughing, or in the form of purulent matter; while the liability to its organization in infants is greater; though, after all, a comparatively rare result, considering the whole number of cases—for the reasons before mentioned.*

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* The idea of Copland and others, that the false membrane in infants is due to a greater amount of *albumen* in the blood, is entirely without support.

5th. Practically therefore, as well as pathologically, we cannot say with Bouchut, "*Without a false membrane, croup does not exist.*" This membrane never exists till the inflammation—the essential element of the disease, as we believe—has preceded, and has produced the exudation of plasma, as before shown. No sooner does the catarrhal *irritation* merge into inflammation, than the plastic lymph is thrown out;† and this *inflammation and its accompanying exudation* are the elements always present in croup.‡

We, therefore, need not, for any practical purpose, admit an "inflammatory and a membranous" croup, as some writers have done, any more than we should make the same distinction in regard to pleuritis or peritonitis. All croup is *inflammatory*, at any rate; and a few cases are also accompanied by the formation of a false membrane. But the latter should not affect the treatment of the disease as an inflammation, but merely from its mechanical effects, and cannot be predicated in any case till it is actually seen; and this is not possible in most cases in which it is developed at the very onset of the disease.

Finally, we would drop the term croup entirely, and use the term laryngo-tracheitis instead. In a work on the diseases of children, we would call particular attention to the fact that a false membrane is formed in about one-sixth of all the cases of this disease; while in adults, this is of very rare occurrence. But we would not make an accident the distinguishing feature of this disease, more than we do in the case of others, nor allow it to enter into either our name or our definition of it.

As in all other inflammations, so in this; the distinction of "sthenic" and "asthenic" is important, both in a pathological and a therapeutical point of view. So far also as laryngismus enters into any particular case—and it does into all cases of true laryngitis to some extent—the case is, of course *spasmodic;* but this term must not be applied to the exclusion of the idea of inflammation. *Genuine spasmodic* croup, we have already seen, is a mere laryngismus. There is more or less spasm in all cases of bronchitis, and still more in whooping-cough; in the latter case in the larynx also; so that infantile laryngitis does not present any peculiarity in this respect. *Catarrhal* infantile *laryngitis* we regard as a contradiction of terms (p. 90).

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* In Dr. Ware's "Contributions to the History and Diagnosis of Croup," false membrane was found in only 22 cases out of 131, or about one-sixth of the whole.

† Hasse's Diseases of Organs of Circulation and Respiration, p. 277.

‡ Dr. H. Green also holds this idea, though in different terms. See his work on Croup, p. 13.

2. Does laryngitis (and tracheitis) with false membrane occur in the adult, as in early life?

We do not hesitate to answer this question in the affirmative, having seen such membranes ourselves, and having demonstrated their fibrillated structure under the microscope. Such cases are comparatively rare, for the reasons already assigned (p. 95; *b.*); and therefore occur more frequently in females who are not accustomed, or (as in some instances) not able, to expectorate at all. I received and still retain such a membrane, expelled in a tubular form by an adult female patient of Dr. G. W. Garland, now of Lawrence, Mass.

Even "membranous croup," then, if we retain the term, occurs, though rarely, in adults, it being at all ages essentially the same disease so far as its pathology is concerned.

3. Is croup a *specific* inflammation?

Our negative reply to this question has already been anticipated (p. 95; 4th).

4. In infantile laryngo-tracheitis with false membrane, does the danger to the patient result almost entirely from the presence of the membrane, as seems to be so generally admitted? or is the inflammation alone often sufficient to produce death?

Surely no reason can be assigned why a disease so fatal to adults as laryngitis and tracheitis should not be equally so in early life. And yet, since the decease of the "Father of our country" to the present time, adults have died without the formation of a false membrane, in almost all instances, so far as can be ascertained.

The fact cannot be overlooked, that an inflammation of the larynx is a serious and a dangerous matter, at any time of life, as a mere *inflammation*, aside from the final disposal of the exuded plasma. The treatment is therefore to be directed primarily to the disease as a mere inflammation. Of course, the formation of the membrane brings a new danger to the patient, since it partially, and (if it extends to the bronchial divisions in the lungs) in some parts completely, closes the air passages, and thus produces a gradual asphyxia. Occurring, as it does, also, after the patient is reduced by the previous inflammation, its dangerous effects are increased.

But we must, however, bear in mind the fact that the membrane is not organized till the *inflammation has subsided* in the part. The inflamed vessels relieve themselves by the exudation, and thus the inflammatory process is arrested.* The treatment, therefore, to subdue inflammation, so proper at first, is *not* proper after the false membrane is formed in the larynx and trachea. We have here a *consequence* of inflammation to treat, in a part which the inflammation itself has left. But this point will be more definitely considered farther on. The thicker the membrane, the greater the danger and amount of asphyxia; but the small trachea of an infant being closed in a greater ratio by it than the larger tube of the adult, the danger is comparatively slight in the latter from its formation. It is seldom more than 1½ line thick at the thickest part, in the child; and usually ½ to 1 only. But before proceeding to apply the preceding views to the treatment of infantile laryngo-tracheitis, the following points also may profitably be briefly alluded to.

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* "The secretion of the lymph *weakens* the inflammation most commonly, and in

1st. The progress of laryngo-tracheitis is invariably from above downwards. The observations of the best pathologists have established this point. Generally, or at least very frequently, a catarrh commences in the nasal passages, and extends backwards into the pharynx; then, descending into the larynx, continues such for a time, or at once merges into an inflammation. Often the pharynx becomes inflamed, and a false membrane appears upon it before the inflammation descends into the larynx and trachea. In some cases the larynx may be the part first affected; but if so, such cases are to be regarded as exceptional, and the inflammation never extends upwards, but always downwards from that organ. The existence, therefore, of a catarrh for two or three days, and especially of a false membrane on the pharynx, before the peculiar ringing cough of infantile laryngitis occurs, are most important elements of diagnosis in this disease, though their absence is not *demonstrative* of its non-existence. It will be recollected, therefore, that we said the exudation of plasma relieves the inflammation of *the part*, though at the same time it may be extending downwards to other parts lower in the air passages.

2nd. In infantile laryngitis it has been stated that it progresses downwards into the trachea. In some cases (and not unfrequently) it extends into the bronchi, and even into their subdivisions in the lungs. The exudation is sometimes so copious in the smaller tubes in the lungs, that they become filled with a solid cylinder of plasma, instead of being lined with a false membrane. The same often occurs in cases of bronchitis in adults. We can have no warrant that this result will not occur in any case where a

the end puts a stop to "it entirely."—*F. Ryland on Diseases and Injuries of the Larynx and Trachea, p.* 134.

Exudation always at once puts a stop to the inflammatory process in the precise part where it occurs. But it does not necessarily preclude its return in the part; and therefore, in croup, two or three membranes, it is *believed*, have sometimes formed in succession on the same surface. We, however, wait for farther proof of this assumption; though the possibility is admitted.

false membrane has been formed; nor that convalescence will commence at once, though large portions of it have been expelled from the trachea. Nor can we expect the convalescence to progress rapidly as soon as the laryngismus and ringing cough have ceased, since a bronchitis may still remain for a few days, or may even prove fatal at last.

Some seem to think that if the false membrane is removed from the larynx and trachea, all danger is over. Nothing, however, is gained by merely passing the air through the *air passages;* it must enter the air *cells*, before the blood is aërated thereby. Whether, therefore, the trachea is diminished to one-half of its capacity by a false membrane; or one-half of the smallest bronchial tubes are completely closed by solid cylinders of plasma, will not make the least difference so far as the production of asphyxia is concerned.

3rd. The false membrane is often formed in a very short time after the exudation is found out (see the conditions, p. 93); but it is an important fact that a false membrane formed on a mucous surface never becomes vascular, and therefore permanent, as it may on a serous membrane; but it *soon becomes detached, and spontaneously falls off.* This is well known to be the case in vaginitis and the endo-metritis which sometimes accompanies dysmenorrhœa; and the disease now under consideration is not at all different from these in this respect. Only a fibrillation existing in the false membrane, and therefore no vascular connection between it and the subjacent surface, it soon loses its slight vitality, and is cast off accordingly.

The time elapsing before the spontaneous detachment of a false membrane varies in different cases; but seldom exceeds five or six days after its formation. But this result will surely occur, if the patient's strength continues, and thus life is sufficiently prolonged to afford the necessary time.

4. It has been seen that laryngo-tracheitis occurs in the adult as well as in the infant; but is not the "Diphtherite" of Mr. Bretonneau a different disease?

We see no necessity for any such admission. In diphtherite, the false membrane, almost always covers the pharynx and tonsils, and often extends into the posterior nares, covering both surfaces of the velum; and then descends into the larynx and trachea. The same often occurs also in connection with scarlatina and rubeola.

But all this also, often occurs in the young child, and therefore the terms "Diphtherite," or "Croup of Adults," we consider objectionable, as calculated to foster the idea of a radical difference as to the nature of inflammation of the larynx and trachea in the young child and the adult, while they are pathologically the same. To say that this is an "exudative inflammation" of the parts affected, is tautology; since all inflammations of membranes are accompanied by an *exudation* at least, as already shown.

Diagnosis of Infantile Laryngo-Tracheitis.

While it is in the highest degree important that a correct diagnosis be formed early in the course of this disease, it must also be acknowledged that this is often a matter of the greatest difficulty. We are, however, decidedly of the opinion that if the usual "perturbating" treatment of the disease is to be carried into execution, the little patient's prospects of ultimate recovery will, in most cases, be at least as good if we commit the mistake of deciding that the disease does *not* exist when it actually does, and thus give the patient the chance of recovery without any medication at all, as if we err in the opposite direction, and therefore apply the treatment though there is no serious disease at first.

In a suspected case, therefore, we would assume that this disease does not exist, till some positive reasons appear for the opposite conclusion.

The question is usually between laryngo-tracheitis on the one hand, and mere laryngismus or catarrh on the other. The general differential diagnosis of these three pathological conditions, may be expressed as follows:

Laryngismus.	*Catarrh.*	*Laryngo-tracheitis.*
Attack sudden.	Ditto gradual.	Ditto gradual, and often preceded by catarrh.
Usually attacks delicate and irritable children.	Attacks children of all conditions.	Most frequently attacks robust children.
Is an affection of the spinal (diastaltic) nervous system.	Is an irritation and congestion of the mucous membrane.	Is an inflammation of the membrane affected.
Neglected, the attack may pass into general convulsions.	Neglected, may be transient; or, inflammation may ensue.	Neglected, recovery may, after several days, occur; less probably in the membranous form.
Is no fever.	No fever usually at first.	Constant febrile symptoms.
Attack sudden; cessation ditto.	Progress and decline gradual.	Ditto ditto.
Eyes unaffected; no sneezing, or discharges.	Suffusion of the eyes; sneezing and discharges more or less copious and acrid.	These symptoms generally precede for two or three days the development of laryngo-tracheitis.
Cough absent during intervals of attacks; seldom croupal during them.	Cough persistent, short, frequent, and harassing; not croupal.	Cough persistent, and peculiar—"croupal."
Respiration free in the intervals; often stridulous during attacks; no uneasiness in air passages during intervals.	Respiration hurried; tickling or relaxation in the throat; redness and tenderness in the fauces.	Respiration has peculiar sound; inspiration being "stridulous." Fauces injected *at least.*
Voice unchanged in the intervals.	Voice hoarse; uneasiness and tightness of the chest.	Voice husky or lost, continuing so constantly.
No false membrane on the fauces.	Do. do.	False membrane sometimes on the fauces.
Caused by irritation of dentition, disordered bowels, &c.	Caused by exposure to cold, or inhalation of irritating matter. Is often epidemic.	Caused by exposure to cold and damp; less frequently epidemic. Children of some families peculiarly liable to it.

If we find, in addition to the preceding signs, that portions of false membrane have also been ejected, the case is demonstrated to be "laryngo-tracheitis with false membrane," this sign being pathognomonic of this form of the disease.

If, then, a child, hitherto in perfect health, wakes in the night with a croupy cough and stridulous breathing, the presumption is that it is mere laryngismus; and this idea is confirmed if the patient be a delicate, irritable child, and has not completed the process of dentition, or is probably suffering from irritation in some portion of the alimentary canal. A simple emetic of ipecac. or wine of antimony, is the most powerful remedy which would be justifiable in such circumstances; and such a remedy will usually at once remove the symptoms.

If the child has had a catarrh for two or three days, however, the danger of laryngo-tracheitis is increased. But if there is no fever, we are not yet justified in considering the case any thing more serious than catarrh. The prevalent medical diathesis of the time will, however, aid much in deciding this point. If there is an epidemic catarrh at the time, the previous presumption will be confirmed, and mild treatment only will be justifiable. On the other hand, if laryngo-tracheitis is common at the time, the patient must be watched with the greatest care, after the simple remedies required by the present condition have been administered. We are, however, also to remember that a dryness of the mucous membrane, in exposure to cold, may produce a sudden hoarseness like that of catarrh.

The probability of incipient laryngo-tracheitis is increased, however, in the circumstances just mentioned, if the patient, or if an older child in the same family, has before had an attack of this disease; while a previous attack of laryngismus, or mere catarrh, with similar symptoms, leads to the opposite presumption. The existence of a false membrane on the pharynx, confirms the idea of true laryngo-tracheitis. Hence, the fauces and the pharynx should, in *every case*, be carefully examined.

The stridulous inspiration of laryngo-tracheitis may be very well imitated in mere laryngismus; and in the former disease may often be detected by the aid of the stethoscope, before it can be in any other way.

These are the most prominent points to be observed in enabling us to distinguish laryngo-tracheitis from mere laryngismus and catarrh. It is not deemed necessary here to enumerate the points which distinguish it from erysipelatous and submucous laryngitis, or œdema glottidis, which may result from them.

The question in regard to the sthenic and the asthenic varieties of laryngo-tracheitis, must be decided by the character of the symptoms, and the condition of the child at the time of the attack. The presumption may be that the disease will assume the first form in a robust, plethoric child, and the second form in opposite circumstances. Regard must also, however, always be had to the medical diathesis of the time; the strongest children not unfrequently having the asthenic form of the disease, from certain contemporaneous epidemic influences.

(To be concluded.)

Mental Derangement—its Symptoms and Treatment. By Roger G. Perkins, M. D., Senior Assistant Physician, New York Lunatic Asylum, Blackwell's Island.

Insanity is a term applied, by those who use it correctly, to that state of mind in which healthy action is suspended. This is, perhaps, as complete a definition as can be given of the disease. It has been defined "a loss of mental freedom," "a destruction of spontaniety in psychological action." These definitions, both meaning the same thing, are neither of them admissible, as they embrace sleep-waking and dreaming.

Locke's definition was, that madness consisted in "reasoning from false premises." Cullen calls insanity, a false perception and consequent erroneous judgment. Prichard has well remarked, that both these definitions embrace but one form of mental disease, viz. hallucination. His own definition is as follows: "A chronic disease, manifested by deviations from the healthy and natural state of the mind; such deviations existing either in moral perversion, or a disorder of the feelings, affections, and habits of the individual, or, in intellectual disarrangement; which last is sometimes partial, as in monomania, affecting the understanding only in particular trains of thought; or general, and accompanied by excitement, namely, in mania or raving madness; or lastly, confounding or destroying the connections or associations of ideas, and producing a state of incoherence." The main objection to this definition is the use of the word *chronic;* insanity is oftentimes acute, both as to time and phenomena. Again, the definition is too long; and, long as it is, does not include the delirium of fever, the coma of apoplexy, or the lethargy sometimes following epilepsy, all of which diseased conditions belong to a mind not "*sana in corpore sano*," and, consequently, are improperly considered as any thing else than forms of insanity. The great difficulty found by many writers on this subject, in attempting to define this disease, has been lest they should include the delirium of fever; but, without doubt, any one of these authors, if called upon to testify in the case of a man who during the delirium of fever had murdered his child, would urge his acquittal on the ground of temporary insanity. Throughout the whole extent of the writer's reading, there has been found no definition which seemed so proper as that which stands at the head of this article, and which naturally suggested itself to him, as it without doubt has to many others, at the very outset of his undertaking.

All forms of mental derangement can be included for description in four classes: 1st. Mania. 2d. Melancholia. 3d. Dementia. 4th. Moral Insanity.

It is proposed to consider these four forms of mental disease separately.

I. Mania is divided into general and partial, each of which divisions contains several varieties.

The word is derived from the Greek verb signifying to rave. It has been in use as applied to this form of disease from the earliest periods of the history of medicine. Its appropriateness has never been doubted.

A patient upon whom general mania is making its approach, generally exhibits nearly the following symptoms immediately before the full development of the disease: Every natural thought and feeling is exaggerated. At first, this is scarcely noticeable; but, after a short time, the exaltation becomes more and more manifest; soon we observe former objects of quiet and unobtrusive affection are treated with the most persuasive and endearing fondness, and at the same time that those who may once have incurred the displeasure of the patient, are spoken of with a bitterness and angry vindictiveness totally inconsistent with the previous character of the individual. The patient is evidently becoming more and more a creature of impulse, and cannot fix his attention upon the ordinary employments of the day, but is wandering with strides increasing in rapidity from one thing to another. As the excitement increases, the wildness and often redness of the eye begin to attract attention. The heat of head is sometimes found to be considerable, though the patient has, perhaps, made no complaint of pain; the pulse may be full and frequent, or small and quick; the tongue is sometimes furred, the bowels costive, the skin nearly normal; not unfrequently the hands and feet, perhaps arms and legs, are cold and clammy; the muscles of the face are beginning to seem more prominent, and it may be they act spasmodically; the expression of the countenance is rapidly beginning to change; and the language, growing more and more rapid, loud, and boisterous, is interrupted by strong exertions to procure self-control, and is, perhaps, not unmixed with loud laughing or tears, as the subjects of conversation be gay or sad. At this time a wondering question, or provoked remonstrance, falls upon the patient's ear from someone who witnesses his strange actions. The patient flies at once into a passion; his abuse is loud and terrible; horrible blasphemy is poured forth with extreme rapidity; and, wildly gesticulating over the extended arms of those who seek to curb his fury, he heaps the curses of all the gods and fiends upon the devoted object of his anger. The ideas follow so quickly upon one another, he cannot finish the expression of one before another claims his utterance, and the first is left unfinished; at last, so fast do the ideas throng through his mind, he can no longer be coherent; in his eagerness to express them all, confusion follows, and the patient is a raving maniac. This is acute mania.

It is generally three or four days before the symptoms above recited render it necessary to confine the patient, and during this time much may be done to lessen the violence of the expected attack; but of this, further on. The occurrence of acute mania, as above described, is preceded by some months, perhaps only weeks, of ill-health, slight depression of spirits, headache, sleeplessness, and anxiety, all of which precursory symptoms are vividly remembered by the friends of the patient, after it is, perhaps, too late for their treatment. Where the nervous temperament predominates, and particularly in those in which there is hereditary taint of insanity, the physician can hardly be too careful in his attentions to patients complaining of headache, sleeplessness, etc., as, by proper means, insanity is many times averted. After the patient has become raving in his madness; when the rapid incoherence, with wild gesticulations and other symptoms, have become perfect masters of the patient, and total loss of self-control has ensued, the condition of the unfortunate maniac is pitiful indeed. With few exceptions, the propensity to rend has full force; the patient speedily disrobes himself, and his clothes are in tatters in an hour. Windows (if within his reach) are shivered; and, reckless of the wounds upon his hands, caused by the broken glass, the doors and walls resound to his impetuous beating, while the air is filled with howling blasphemy. The natural evacuations are strewed upon the floor and smeared over the walls; articles of furniture are broken; mattrasses emptied of their contents; bed-clothing torn to ribands; when, finally, finding nothing more within his reach, the patient throws himself upon the rubbish he has formed, and, amid tears and laughter, buries himself beneath it. Upon the entrance of another, he may be calm for a moment; as soon as he opens his mouth to speak, however, there rushes from it a storm of curses and reproaches. It is not possible to say how long this state of things would continue, if uninterrupted by medication, as the deep injustice of an experiment upon such a case has not been attempted: it would probably last until the patient should sleep through exhaustion, or become weak through abstinence. From *fitful* sleep he wakes but to continue his ravings, and from the food demanded he gains additional strength to do so. Long before this, however, proper medication has doubtless been used, and its effects begin to manifest themselves. The hallucinations are generally those of fear and suspicion. The suspicion may fix itself upon the nearest friend, in fact, it generally does so, and the feeling may become so strong as to reach an homicidal point.

The fear, in almost all cases, is for his own life, and under these circumstances the patient almost always attempts suicide.

The state of bodily fear in which he is, is too intense; and rather than endure it any longer, he attempts to place himself beyond the reach of it by self-destruction.

Chronic general mania pursues the same course as the acute, but not with so great violence, and with occasional complete remissions. During these lucid moments, and short moments they often are, the patient not unfrequently acknowledges his illness, is thankful for kindness, and sometimes profuse in his apologies and expressions of obligation.

As will be easily conceived, this continued raving cannot long exist without, sooner or later—as the constitution of the individual will admit—the supervention of extreme emaciation and pallor. The earnest, fixed, and glassy look soon takes full possession of the eyes; objectless and almost constant movements of the hands, often accompanied with twitching of the muscles of the face, are now present. The appetite, which while the mania was acute was but little, almost always entirely gone, oftentimes becomes voracious.

The bowels, before obstinate in constipation or diarrhœa, are now, perhaps, regular. The skin assumes an unnatural dryness, hardness, and color. The pulse is ranging from 90 to 100, full and strong—or from 108 to 116, small, weak, and irritable. The tongue, no longer much furred, is nearly normal—though, in cases of small and irritable pulses, the papillæ are elongated. The temperature of the body of the patient is generally nearly normal. The pupils largely dilated.

Partial mania, as seen in both its acute and chronic forms, presents only difference in length of duration. It consists in hallucinations, with or without violence. When violence is present, it is intimately connected with the delusion. Hallucinations can be classed under several heads. We have them of self-esteem in large numbers; of veneration and self-esteem, as seen in the delusion of Divine power, or the possession of the attributes of Deity; of amativeness and philoprogenitiveness (nymphomania, erotomania, satyriasis); of acquisitiveness (as of wealth); of approbativeness (as of ambition); of cautiousness (as of fear and suspicion); in fact, the forms which are assumed by the delusions of the insane are far too numerous to be mentioned here.

Of all these forms, however, much the most common are those depending upon fear and suspicion.

It is under the influence of this delusion that many of the insane are guilty of homicidal and suicidal attempts, as has been before stated when speaking of general mania. It is perfectly natural that, under the impression that they are the objects of injury from a second party, they should attempt to rid themselves of his harms and devices summarily and at once.

Violence, when it accompanies *partial mania*, is almost always called out of opposition. The king of Europe has a right to be angry with, and perhaps strike, the man who claims a right to the same sceptre. The owner of *all* the gold mines *in the world* deems herself an ill-used woman if anyone shall claim the proprietorship of any one in particular. The result of this clashing is loud talking, then threatening; and, unless it stops here, where those in charge generally interfere, blows and blind fury are the consequence.

The general physical health of patients suffering from partial mania, is good in many cases. Anæmia is the prevailing physical derangement, where any exists. The heat of head is sometimes noticeable on the advent of excitement, and the pulse is not unfrequently quickened.

Under this class it is proposed to speak of puerperal mania, though often the patient is *generally*, instead of partially insane. This form of mental derangement, so peculiarly interesting, inasmuch as it involves the happiness of so many and separate ties so closely woven, is connected invariably, as far as our observation goes, with a state of anæmia, and high, general, nervous excitement of the physical system. The onset of the disease may occur during gestation, parturition, or lactation. When seen in connection with gestation, it is easily confounded with an exaggerated hysteria; in fact, when occurring at this or any other period, it may be considered as a disease arising from hyperæsthesia, and therefore belonging to the same class as simple hysteria.

Occurring during parturition, in the one case in which I have seen it, it assumed a low muttering form, with occasional outbursts of violent fear. When present, as is the case in most instances, during lactation, its exciting cause may be supposed to be a stoppage of the flow of milk, or some other physical phenomena. A mental excitement, and, perhaps, still more frequently taking cold, are the prominent causes directly operating upon the predisposing state of anæmia and nervous excitement, many times observed among lactiferous women. Any case of mania occurring within twelve months after the birth of a child, is called puerperal. Attempts at suicide, and sometimes infanticide, are very common in this form of insanity.

Jealousy and abuse of the husband are oftentimes present. Religious impressions are not unusual, and considerable fear is manifested. The patient now and then becomes melancholic and demented, and sits for hours speechless and inattentive, and perhaps becomes filthy in her habits. Other cases are very violent, and are more properly described as affected with general mania, raving night and day, with filthy and blasphemous language and exposed persons.

The restraint of a camisole is often needed for them.

To this class may be said to belong the most hopeful of our cases.

It is well known that pregnant and lactiferous women are physiologically in a state of great nervous susceptibility. External impressions call forth a ready response; and in females of a nervous diathesis, any irritation of conduct or language, any neglect on the part of others, any tidings of an exciting character, and any influences producing fatigue or annoyance, should be most carefully avoided. It is beyond doubt that in many instances patients have passed through some of the precursory symptoms of this form of disease, and recovered, without becoming so uncontrollable as to be sent to an asylum. They owe their recovery, in many cases, to the fact that the nearness to insanity was not for a moment suspected by the physician, and to the continued kindness and forbearance of their nurse and husband.

Had tendency to insanity been thought of, perhaps the tonics indicated by the anæmia might have been suspended, lest they might add to the violence of the paroxysm. The cessation of tonics, in these cases, invariably proves disastrous. It is not proper that the consideration of the symptoms present in this form should be left without more marked reference to the propensity generally existing, to use filthy and blasphemous language —particularly the former. Ideas the most repulsive are constantly expressed; and a wanton exposure of the person, with sometimes a great desire for sexual intercourse, in many cases form the principal symptoms. The continued congestion of the ganglia of procreation seems to react upon the cerebrum, and the language is influenced by it. It may be observed, in passing, that the same rule holds good in relation to the congestion of the ganglia of digestion; this state of things also reacting upon the cerebrum, ideas of foreign substances in the stomach are born, which ideas will continue until the cause is removed.

Typhomania is a form of insanity which has only of late attracted the attention of psychologists. As the name would seem to indicate, it consists of the worst symptoms of general mania, accompanied with a marked typhoid tendency. There is unwillingness to eat or drink; and all food as well as medicine must be forced upon the patient by means of "the wooden spoon," a description of which will be found in that part of the paper which is devoted to the consideration of treatment.

From this last symptom—always prominent—we have a right to assume the existence of hallucinations of suspicion and fear, though in the cases observed by the writer, in all numbering about a dozen, the incessant incoherence, loud and angry raving on all subjects, smiting upon the doors and walls, has prevented their discovery in more than two instances. The patient stands naked in the room, eyes suffused with unhealthy moisture;

lips and teeth covered with sordes; tongue loaded with brown or black fur; head and general surface hot and dry; pulse 120–130. With all these symptoms of constitutional weakness, the patient jumps up and down, beating the floor with his bare feet, and crying out at the top of his voice, for hours together.

The physical strength, when put in opposition to the attendants, where medicine or food is to be given, is oftentimes very remarkable.

In the cases I have seen, there has been no suicidal attempt. The general employment of the "*camisole*" may, however, account for this fact. The mortality is very great, though more success has followed the exhibition of stimulants than any other treatment. Depletion would undoubtedly destroy the patient.

In regard to the nature of this form of mania, some have considered it an aggravated febrile delirium, some as mania complicated with typhus fever, others again as an hitherto undescribed form of mania.

Our experience of typhus and mania in their ordinary and extraordinary forms, permit us to hold only the opinion that it is truly a form of mania, bearing the same relation to that disease as the pneumonia typhoides does to the pure pneumonia.

It cannot be the delirium of fever, for the hallucinations of delirium consist only in false perceptions. Here the delusions of fear and suspicion are certainly present in some cases, and are firmly believed to exist in all.

It can hardly be mania accompanied by typhus; as it is difficult to suppose that two such mammoth diseases should be incubating in the system for months at the same time, and should together begin to exhibit themselves. Again, while it is easy to see the possibility of the specific poison of typhus attacking a patient sick with brooding melancholy or dementia, inactive and sluggish, it is far from easy to conceive of a system in a high state of nervous exaltation as in any degree susceptible, so long as this exaltation continues. The fact that typhomania sometimes occurs in localities where typhus may easily be supposed to exist, is admitted; but it is known to occur also in those regions where typhus is as much a stranger as mania. Again, premonitory symptoms of weeks' and months' duration can many times be traced in the history of typhomania. In typhus, this is known to be otherwise.

II. Having thus cursorily glanced at the symptoms of one of the principal forms of insanity, and having followed any peculiarities into the class in which they exist, it is proposed to proceed to the next form—*melancholia*, which is frequent among the insane in this city, owing to several facts to be at once referred to. Four-fifths of the insane in New York are of foreign birth—a large proportion of those are uneducated, and can neither read or write. In their hearts the love of country, of home and friends, is predominant, and wholly beyond the control of their undeveloped minds.

Their spontaniety having been seldom called into exercise, in consequence of the political and religious institutions under which they were born, is without power to rouse them from the contemplation of their loss, continually thinking on the lost objects of their affection, the mind, unemployed in reading or writing in consequence of lack of education, rapidly loses its tone; the lowness of spirits becomes greater and greater, till at last the night of insanity covers the soul with darkness like nothing but itself.

Another form of melancholia, also the result of morbidly exaggerated affection or feeling, is found following the loss of friends by death, unrequited love, disappointed ambition, loss of property, &c. A truly well-balanced mind will never yield to these mishaps. A truly philosophical sense of our duty to the living, will always prevent the access of morbid melancholy for the dead. Unrequited love, perhaps the hardest to bear, is, properly speaking, no cause of melancholy, save to the ineffably selfish.

Loss of property or disappointed ambition, to a well-regulated mind, are only additional incentives to extra exertion. Remorse itself can but for a short time press upon a philosophical spirit, if it is allowed the consolations of religion.

The melancholy which is the result of physical derangement is, however, of an entirely different character. There is no reason why minds of the most thorough cultivation, and most absolute self-control and general spontaniety should not yield at once.

The mind occupied with thoughts infinitely removed from physical self-contemplation, is not aware of the insidious disease which by-and-by shall raise its strong head and call upon the brain for sympathy; and by the time the terrible presence is discovered, wakeful nights and torturing pains have so undermined the mental constitution, as to leave that "thing of beauty" which all hoped would be "a joy forever" at the sport of its own vain imaginings.

Of all the physical causes, productive of melancholy the most frequent is dyspepsia among men, and disease of the cervix-uteri among women.

Diseases of the liver, of themselves, as well as in their connections with general digestive derangement, are a frequent cause. Cancer, or even chronic inflammation of the stomach, are often present as causes; and hernia in all its forms, may also be classed in the same category. Hypochondriasis is the first step toward melancholic insanity, in many instances; and when, at last, insanity is reached, the hallucinations are sufficiently ridiculous.

The condition of the melancholic is, whether the disease is of mental or physical origin, one appealing to our kindest sympathies.

It is seldom accompanied with violence, unless in opposition to medication and curative agents. When, however, violence occurs, the type of the disease is that of general or partial mania. Constantly hopeless and despairing; often weeping; sometimes gazing, in an apathetic indifference, upon vacancy; answering, when spoken to, in the most plaintive tones, and referring, at all times, to the cause of their heart-breaking sadness. This class of patients occupy a place in the world without *filling* it, live neither in the present or future—contemplating only the past. Sometimes in melancholia from hypochondriasis, amid tears and moans, you are informed that a serpent is within the stomach, gnawing at the vitals; that crabs, shoemakers, poodle-dogs, fire, glass bottles, poisons, stones, laudanum, handkerchiefs, iron hoops, swords, in short, any thing you please, wasps, men and women, pepper, acids, etc., are in the belly; in another direction is one who assures you his legs are glass, and his head is a pumpkin. Here is seen the intimate connection between the ganglion of digestion and the cerebrum—the irritation of the one calling upon the other for sympathy.

III. *Dementia*, the third form into which we have divided insanity, consists either in complete incoherence or complete inaction (amentia). The incoherence is too great to allow of the presence of "fixed ideas"—hallucinations—in the one case; and the total want of mental action, accounts for their absence in the other. Dementia is rarely acute. It most frequently follows upon acute general mania, and treads fast after the melancholia of the affections. It is also a *sequela* of the melancholia incident upon physical disease, though not so commonly as of the other form, unless the brain is involved in the organic lesion.

A patient having dementia, not unfrequently has moments of acute mania; sometimes those maniacal periods extend over a longer space of time, and for a few days the exaltation may be a marked symptom. Dementia, however, soon follows, and the patient is as abject and stupid as ever: any hopes formed upon those sudden changes are seldom destined to be fulfilled.

This form of insanity has three stages: loss of memory, loss of comprehension and reason, and loss of instinct. The three stages merge into one another, and it often occurs that the transition from one to another is not noticed. In the first stage, the loss of memory not interfering with the reason, that faculty is only slightly affected; provided the premises are constantly before the patient, his reasoning is not deficient: thus, a game of chess, or draughts, as the patient can have the situation of the men before him continually, is played by a patient in the first stages of dementia with a semblance of the skill which belonged to him before his illness; but if two facts are presented for his comparison, he forgets one in the study of the other. This stage may continue for some time, and, perhaps, the patient may never pass through the other forms of the disease.

In this stage, dementia is considered curable, in some instances; it is always, at this time, treated with hope. The second stage gradually makes itself prominent, and the patient is seen no longer to take interest in things about him, however agreeable they may have been formerly: with his hands in his pockets, or with arms folded across his breast, he stands stock still, his chin resting upon the top of the sternum, and his eyes cast to the ground; all day, through all kinds of weather, he would, perhaps, remain in this position, unless moved by his attendants. The most amusing incidents, the most moving events, pictures, music, &c., fail to arouse him, except with great difficulty. If the head is raised, by force, from its forward inclination, by the hand of the physician, and patient is addressed in a loud voice, the expressionless features do not respond, though the lips may commence an inarticulate, meaningless, reply. The extremities become swollen and œdematous; the circulation is languid; bowels are more or less costive; while the appetite is often voracious; and a desperate inactivity settles upon the whole mental and physical man.

It not unfrequently happens, that between the second and first stages, the physique is not so much involved as to prevent the objectless wanderings and continued mutterings of incoherence. The patient is then seen walking within the inclosure where he may be placed, now and then stooping to collect all sorts of trash lying upon the ground, which he carefully places away in his pockets, muttering the while in disjointed sentences, and often repeating mechanically the same words. His gesticulations are not violent, but consist in simple affirmatory inclinations of the head, with now and then a wild flinging about of the arms. The silence and immobility above described as pertaining to the second stage, soon make their appearance.

The third stage, involving the loss of instinct, places the man at once below the brute. No regard is paid to the taking of food, or the passages of the evacuations. The patient becomes the most loathsome and disgusting object in nature; and it is oftentimes wonderful how long this state of vegetation continues.

We pass rapidly from the painful consideration of this stage, only remarking, perhaps unnecessarily, that hardly any cures are ever known from its first onset. Death generally frees the unfortunate from his disease. The cases of this form, in many lunatic asylums, are numerous; as the accumulation of incurables generally die in this state.

IV. *Moral Insanity*, is a disease of the affections and feelings: in it the mind is not necessarily involved. When it occurs in connection with partial mania, the cases are most difficult and unmanageable. When occurring by itself, antipathies of an exaggerated character, and the most utter disregard of truth, are prominent symptoms. With the most unblushing effrontery, the patient will demand our belief of false assertions—perhaps likely to be true—to the injury of others; and, with the perfect knowledge on his part of the falsity of the accusations, tell a consistent story against those for whom he has an antipathy. When asked as to the reason of his antipathy, he does not know why he cherishes his hate, and can scarcely be got to acknowledge his lie. In the progress of the disease he becomes filthy, insolent, and overbearing, and seems driven on by the Spirit of Evil to do evil simply for evil's sake. An individual laboring under this form of disease, may pluck a flower and trample it in the earth, for no other reason than because it is beautiful, and may afford enjoyment to others; he may injure the fair fame of a woman, because she is virtuous; or, he may hate the wife of his bosom, because of her fidelity. In the advanced stages of this disease, there is a disposition to rend, and the habits are of the most filthy and revolting character. In purely moral insanity, no delusions exist. Patients have been known to excuse themselves from their habits, on the ground of insanity.

At the commencement of this article, it was the intention to dwell to some considerable length upon the *causes* and *pathology* of insanity, as well as upon its phenomena. The large amount of space already occupied in a recitation of symptoms, with now and then a reference to causes, and indirectly to pathology, seems to forbid this course in the present paper.

The importance also of a careful and thorough exposition of the system of treatment, is at once so evident, that the writer feels less reluctance to leave the causes and pathology untouched, than would otherwise be the case. The causes of insanity, if properly treated, would make a long paper, in however condensed a style it might be written.

The pathology is, in many cases, uncertain; and years are yet required to make fixed facts of certain microscopic changes observed in the cerebrum; and, under these circumstances, this part of the subject is left without unwillingness.

The treatment of insanity is both medical and moral. It is of the medical we shall principally speak at this time. In the management of this disease, we are guided by the same general principles as in that of every other. Our first step is to remove the cause. If that cause is a physical disease, its treatment, and if possible, its cure, is our first duty. If physical symptoms are not at first prominent, they are to be sought for with great care: in almost every case they exist, and demand treatment. It should be borne in mind that insanity is but a symptom, and as such, its origin should be discovered at once.

That the desired treatment may be carefully carried out, the first object of the physician, on being called to a case of mania for its treatment, should be to procure a strong, quiet, trustworthy, and patient man, as attendant. This person, upon whom great responsibility rests, should have the virtue of consistent firmness with unremitting kindness. He must be entirely under the control of the physician, and must in the cases of mania never lose sight of the patient under any circumstances whatever. He must be provided with a camisole, a "wooden spoon," and additional aid, if he requires it, to enforce the physician's orders. This camisole (French for waistcoat) is a jacket made from sail-cloth. The sleeves are two feet longer than a man's arms. The jacket is fastened behind with strong buckles and straps. The arms, passed into the sleeves, are crossed upon the chest, and the two long sleeves are brought behind and tied together. When a patient is within this enclosure, his arms are confined, not at all uncomfortably; and, the only opening of the camisole being behind, by no possible manœuvering can the apparatus be removed by the patient. In this condition, the idea of his helplessness will soon take possession of the patient's mind, and he will often submit unwillingly to take the medicine ordered, as well as the food before refused. If, however, he persists in his refusal of food and medicine, he must be placed gently upon a mattrass, his face uppermost, of course, and the wooden spoon used to administer what has been ordered. The spoon is a very simple, but very effectual contrivance. It consists of a spoon made of wood, in all respects resembling the ordinary form; the handle of it is hollow, and the cavity within extends to the point of the bowl. The spoon, when used, is to be forced between the teeth, and its bowl to be carried back until its point has reached near the root of the tongue. The fluid to be administered is then poured through the hollow handle, from the mouth of a coffee-pot or pitcher; and the patient is compelled to swallow, as the fluid reaches the portion of the pharynx controlled by the reflex system of nerves.

Having put himself in the possession of those means for the thorough accomplishment of his plan of treatment, it becomes the physician's duty to form his plans, secure in the conviction of his ability to execute. In speaking of the *therapeutics*, the question of blood-letting at once presents itself. *There is hardly any form of insanity in which bleeding is admissible.* In every case in which it has been employed within the writer's knowledge, it has proved highly injurious; and, in one case, perhaps utterly destroyed the hope of cure, which might otherwise have been cherished. If a strong, plethoric, and physically healthy man becomes the subject of acute mania, if the head is hot, eyes injected, and face flushed, pulse full and strong, and at the same time if the patient is violent and noisy, the physician would naturally be tempted to a trial of general blood-letting. Let him on no account yield to his inclination. The voice of the specialists in this department is raised strongly in opposition to such a course, and nothing but evil has resulted from this manner of treatment in the cases observed.

The patient will require all his natural strength during his convalescence to avoid falling into dementia. Again, other and powerful agents are at hand to lessen the violence of the sick man, which are equally immediate in their effects, and, at the same time, conducive to a permanent cure. Of these we at once proceed to speak.

Hot and prolonged baths, with ice-water to the head, are the most serviceable means which can be used in the *suppression of the violence* of acute mania, and, at the same time, are excellent means of cure. Let the patient be placed in a bath raised to 98° or over, and while in the bath-tub, let cloths dripping with ice-water be kept constantly applied to the head, the hair on which has been cut very close to the scalp. In a few moments, perhaps it may be half an hour, the patient begins to grow calm, and perhaps will express himself pleased with his treatment, and desire its continuance. The warmth of the bath is to be kept up by fresh additions of hot water, as they may be required; and the cold applications to the head must be continued without intermission. The length of time this bath is to be continued, will vary with the patient's pulse and manner. In many cases the pulse will change to nearly or quite the normal standard, before the bath should be suspended. In Germany, maniacs are not unfrequently kept in this warm bath, with cold applications to the head, for eighteen consecutive hours on following days. It is said that many patients are cured in three weeks by this means.

In the treatment of acute mania, and in chronic mania also, when the physical system has but slightly suffered, we have witnessed the most surprising effects from the use of this agent.

Patients which, without its exhibition, would have been violent, and necessarily confined in cells for weeks and months, have been so benefitted by the bath as prescribed above, as to be reasonable and responsible, trusted and trusting, after but a few applications.

Counter-irritation to the nape of the neck, from the employment of the cantharidal collodion (a most excellent invention for insane hospitals), the tartar-emetic ointment, Granville's lotion, &c., &c. are often of great service. Setons are too slow in their effects to be of much use in acute mania.

In the other forms of insanity they are sometimes highly beneficial. In the application to the scalp of irritating ointment, erysipelas is to be feared; and this plan is not often followed with us.

In cases of partial mania, however, the tartar-emetic ointment has been used over the site of the organs of Combativeness and Destruction, where these organs seemed concerned in the disease (from the form of the hallucinations and the course of the habit); and benefit has resulted in some instances. Tartar emetic administered internally, as a means for obtaining quiet, is often successful. The mercurial purge of calomel and jalap, with one or two grains of tart. ant., is generally administered to patients when the raving mania is accompanied by a disordered stomach. It is often well to open the course of treatment with this evacuant.

In many cases, the use of such remedies as are recommended above, is by no means admissible. Anæmia is a common accompaniment to mania, and a state of the system decidedly below par is too often met with. In these cases the only, and in a great proportion of them the *efficient*, remedies are tonics and sedatives—conium and iron, in large and continued doses (after the system has been, by proper alterative medicines, prepared to respond to their action)—are used with great success. Morphine, or any preparation of opium is much used, and with marked good results. Now and then, a blister may be applied to the nape of the neck, but only for a short time; it is soon healed up. The best food is to be allowed the patient; and healthful exercise in the open air, or in an enclosed verandah, always with his attendant, is advisable.

Puerperal mania, as we have seen it, has demanded the full exhibition of tonics and sedatives. The conium and iron mentioned above are those generally employed. The same principles which govern the treatment of general are held in the management of partial mania. If the habit of the patient seem to require it, he must be treated with depressants; if the contrary, tonics and opium are specially indicated.

Opium, in partial mania, seems sometimes to act upon the brain *alteratively*. The patient is given three half-grains of morphine per diem, for weeks and months together. It is sometimes gradually increased, and after a while the hallucinations are seen to be disappearing. They finally leave the patient altogether, and the medication is gradually suspended. In partial mania, great aid is received from moral treatment, of which more hereafter.

Typhomania is to be treated in precisely the same manner as typhus fever, in many respects. Morphine is, however, to be used in this form of disease, to lessen the extreme violence. Brandy and milk, beef tea, &c. &c., are always to be exhibited; and the full use of tonics must be employed during the convalescence.

In *melancholia*, the treatment must be different in the two forms. When the disease is the result of exaggerated affection, the influences brought to bear upon it are chiefly moral.

The exhibition of morphine as an alterative in this form, however, is often of the greatest benefit. Its effects upon the physical system in producing quiet, and in removing that state generally known by the term nervousness, are very evident. Its influence upon the mind in producing oftentimes an entire change in the current of ideas, is well known. In place of sombre and mournful thoughts, the mind of the patient, through the faculty of imagination, is led to contemplate beautiful visions, and gradually induced to prefer them as subjects of thought. His grief is forgotten amid the realms of ideal beauty through which he wanders; and, no longer constant to the object of his sadness, the patient becomes more cheerful, and, many times, gradually recovers.

In melancholia incident upon physical disease, the treatment must be directed toward the removal of this cause. It then differs, of course, as the cause; but if the case admits of the use of morphine, its administration will be serviceable, from its mental effects. Occasional purges are indicated by the state of the bowels.

In *dementia* the course of treatment also includes many appeals to the "*morale*" of the patient. The chief medication is found in the means best calculated to establish the general health. As may be inferred, the marked atonicity of the reflex system, almost always present, demands attention. The different preparations of nux vomica, in small but long-continued doses, the cannabis indica in a few instances, iron, cinchona, the vegetable tonics and stimulants, are not to be omitted.

Setons, in the nape of the neck, which shall be kept open for weeks and months, are, in this form of insanity, of more use than in any other. They act in two ways. They form an object upon which the attention of the patient is often fixed (which is not to be slightly estimated in dementia), and, at the same time, they act as a continued slight counter-irritation to the encephalon. The drain from the system established by them, if supplied with the materials for good blood, is of marked service, from its indirect alterative effect.

Morphine is rarely used in dementia, the lack of its indication is at once perceived. The system is already sufficiently sluggish. Mercurials are sometimes indicated, as well as iodine also.

Moral insanity may, perhaps, be sometimes treated with antimony, if the system is in such a state as to admit of its use. If employed, it should be continued for a moderate length of time, to allow a complete manifestation of its effects. Morphine, as an antidote to the psychical agitation, has been, in some cases, followed by improvement.

By furnishing, through its effects on the cerebrum, new food for thought, it may remove the morbid tendency to waste the energies upon falsehood and wickedness. In this form of derangement, as has been said above, there are no *bona fide* hallucinations.

The moral faculties are alone involved, and counter-irritation, employed with this view, may, perhaps, influence the disease. Constant occupation, travelling, manual labor, and radical change in the daily associations of the patient, must result in benefit. Toward one affected with *moral mania*, the bearing of the physician should be that of a calm, high, censor of his actions.

When the effort at self-control is not attempted, the deprivation of usual privileges should be used as a means of punishment, until the effort is plainly made. It is to be remembered that in this form of insanity, the intellectual faculties being unimpaired, the patient can sometimes be reached through them.

Before leaving the subject of medical treatment, distinct reference should be made to the use of *etherization.* Dr. Ray, of the Butler Hospital, at Providence, has lately read a paper upon this subject, before the convention of Medical Superintendents of Lunatic Asylums, in which he highly commends its employment. We are beginning to exhibit it, and hope for good results. After the patient is, in some degree, under the influence of opium, ether will often change the drowsy stupor attending the full dose of this drug into sound and apparently healthy sleep. A good night's rest, obtained night after night, by these, or any other means, cannot but benefit the patient extremely.

Suicidal cases, always the objects of unceasing care, but, particularly to be watched during the hours of darkness, are to receive great benefit from this new form of treatment. They are quietly sleeping, with, perhaps, happy dreams (when under the combined influence of opium and ether), during the period in which the attempt at self-destruction is most to be feared. Night after night of unbroken sleep changes the current of their thoughts, and, with moral treatment suited to their peculiar state, their depression is oftentimes entirely removed.

Moral treatment is best conducted, in almost all instances, by persons who have not known the patient before his illness. It is on this account, as well as for the purpose of removing the patient from scenes constantly reminding him of his ordinary life and business, that the insane are generally more successfully treated in asylums. The psychologist, in his bearing toward those under his charge, may, and should, exhibit the feeling of sympathy which he has at heart for their misfortunes. He is always the same affectionate, firm, *truthful*, sympathizing friend. With quiet patience he listens to all their complaints, and by his kind manner and expressed interest (to some degree) assuages their sorrows. A subdued earnestness, with evident intensity of thought, and a certain deliberateness of movement and expression, seem to gain the confidence of the wandering mind in most cases.

It is a matter in some dispute if the patient is to be informed that he is considered insane. Among the Germans, it is not uncommon to do this, and the practice at Utica is also of this character; our own impressions are greatly in favor of this plan, and we have known several instances in which a patient (under medical treatment also) has been *reasoned out* of his delusions. It is many times better *not to reason* or argue with the insane, who may think you are the insane man, rather than he; and, also, because a man who disputes with another places himself upon a level with his opponent.

If one simply states that the subject of the delusion is one on which he cannot agree with his patient; that he most fully *denies its truth*, but is *not disposed to talk* upon the matter, he will, in almost all cases, retain the patient's confidence; and, as he is considered somewhat as a superior being, his judgment is not unusually conceded to. It is hardly ever improper to inform a patient that the actions of his mind are deranged, but there are some instances when it is not necessary to refer to it. Employment is the greatest moral means possessed by the physician in the treatment of the insane. It is better that the nature of this employment should be of the character of the previous habits of the patient; but out-door occupation is by far the most serviceable. As an instance of what employment may do for even the most excited patients, I may be allowed to state that on a recent visit to the New York State Asylum, the most excited and noisy patients were found sitting in a circle round a basket, shelling green peas. They were quite busy, and hardly looked up until the presence of a stranger attracted their attention. The restoration of several lunatics to their senses by a Scotch farmer, who employed them upon his farm because they cost less than men who were not insane, was, perhaps, the first thing which attracted general attention to the use of farm-labor in the treatment of this disease. It is every day affording proofs of its great benefit, in almost every asylum in the country.

Employment at the trade of the patient, if the employment is a healthy one, is an excellent means of cure, when this moral is united with proper medical treatment. There are certain patients whose incoherence and violence are so great as seemingly to preclude the idea of any steady occupation; but unremitting perseverance on the part of the attendant will surely bring its reward, and the patient and physician will each wonder at the amount accomplished.

Amusements should hardly ever be allowed to fill the whole time of the insane. They are generally to be employed as offsets to the wholesome fatigue engendered by some useful occupation. In speaking of the *moral treatment* of special cases of lunacy (the unexpected length of this paper warns us to touch lightly upon the subject) it may be remarked, that the manner of addressing the patient must differ with the character of the person and with his special delusion. The innumerable little incidents resorted to for the purpose of drawing the attention of the demented; the many little means used to excite the cheerfulness of the melancholic; and the many soothing influences brought to bear upon the excitement of the maniac, to produce quiet and calmness, are not to be mentioned in this place. They will suggest themselves in the treatment of the patient, from the circumstances with which he may be surrounded.

Before closing this paper, my duty would be hardly half done, did I not refer to the advantages of sending the insane to an asylum as soon as possible. The symptoms and plans of treatment which have been laid down, are for the purpose of aiding those who require such assistance in the diagnosis of the different forms, and in the treatment of the disease in those cases when circumstances will not permit of sending the patient to a public institution, and in those cases in which unavoidable delay in conveying the patient to an asylum is met with.

It will be at once perceived, that this is but a cursory view of the subject which has engaged our attention. The immense extent and exceeding interest attached to it are almost sufficient to deter one from the attempt to give any thing like a full description of the disease and its treatment; and for this reason the writer has not intended to give any thing more than the outlines of it, leaving those readers whose interest may have been excited by the perusal of this article, to fill up the measure of their wishes in the study of Esquirol, Prichard, Conolly, Haslam, Fenchtersleben, and of our countryman, Dr. Ray, of Providence, who has written the best book known on the subject, especially as applied to legal investigations.

Some important Observations on Aphonia arising from organic lesions.

By Horace Green, M. D.

[The following article was read before the London Medical Society (having been furnished at the request of a corresponding member of that Society), by the Secretary, at its session, in April, 1854.]

Since the publication of my work on "Diseases of the Air-Passages," in which are recorded several cases of aphonia,* dependent, as it appeared to me at the time, on the presence of ulcerations of the vocal cords, I have had an opportunity of observing a large number of cases of aphonia, in many of which the alterations of structure were quite different, in their character and location, from those of the above cases. In other words, the lesions on which the aphonia depended, were not constantly lesions of the vocal cords, nor did they always occur in their immediate vicinity. As such instances are frequently to be met with, in which the changes of structure are in some degree remote from the vocal ligaments, and as the voice in these cases cannot be restored until the primary lesion is discovered and arrested, it has occurred to me that a history of some of those cases of aphonia which arise from causes not alluded to by authors, may add something to our knowledge in medical pathology.

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* A Treatise on Diseases of the Air-Passages, &c., p. 75, *et seq.*

Dr. Cullen has enumerated three species of aphonia, namely, *aphonia gutturalis*, *aphonia trachealis*, and *aphonia atonica ;* and most subsequent writers have followed this division. But these varieties do not include some of the most difficult and severe forms of this symptomatic affection; for aphonia is not an idiopathic disease, but has its origin either in lesion of sensibility or lesion of structure. Under the first head are included those forms of nervous aphonia to which writers on this subject have generally alluded. In this variety, which occurs from lesions of sensibility, no organic changes whatever take place. It is the *aphonia atonica* of Dr. Good, and consists of "a total exhaustion of nervous power in the vocal organs."* In the succeeding cases, the causes of aphonia proceeded from structural changes. They belong, therefore, to the second variety. Aphonia, under my observation, has been found to follow, or to be perpetuated by, the following changes:

1. Ulceration of the mucous membrane of the vocal ligaments.
2. Thickening of the mucous membrane of the vocal ligaments.
3. Œdema of the aryteno-epiglottic folds.
4. Œdema of the epiglottic cartilage.
5. Ulcerations of the fossæ at the roots of the tongue and on the sides of the aryteno-epiglottic cartilages.

1. *Aphonia from ulcerations of the mucous membrane of the vocal cords.*

It is the opinion of both Andral and Ryland, that simple ulcerations of the lining membrane of the larynx, unless they invade the vocal cords or the thyro-arytenoid muscles, cause but little change either in the power or tone of the voice. When the mucous membrane covering one of the vocal ligaments only is ulcerated, the voice is rendered raucous and hoarse. If the investing membrane of both vocal cords is affected, the voice loses its power, and is reduced to a rough whisper only.†

It has been observed by Louis and Andral,‡ that the effects produced on the voice by ulceration of the larynx, differ materially, according to the seat and extent of the ulceration. In fourteen patients, whose cases of laryngeal ulceration, complicated with phthisis, are recorded by M. Louis, where small, superficial ulcerations were found seated, either within the ventricles, between the arytenoid cartilages, or at the point of junction of the vocal cords, the symptoms present were, hoarseness, a marked alteration in the character of the voice, with heat and pricking pains in the larynx, followed, ultimately, by a complete extinction of all vocal sounds.

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* Good's Study of Medicine, article, Aphonia.

† A Treatise on the Diseases and Injuries of the Larynx and Trachea. By Fred. K. Ryland. p. 95.

‡ Clinique Médicale, Tome II., p. 208.

During the past five years, many cases of aphonia, consequent upon ulcerations of the mucous membrane of the vocal cords, occurring in the progress of follicular laryngitis, have come under my observation, in all of which the ulcerations have been arrested and the voice restored by topical medication, except in those cases in which the vocal ligaments had been previously destroyed by long-continued disease, or in such as were complicated with tuberculosis. It will be sufficient, by the history of a single case to illustrate this variety of aphonia, which has its origin in ulceration of the investing membrane of the vocal cords.

Case I. A gentleman, forty years of age, from an adjoining State, who had suffered under follicular laryngitis for two years, came to New York several months ago, for medical advice. Two years before this visit, whilst actively engaged in business, he found his voice beginning to fail. He became hoarse, and a constant feeling of uneasiness, with pain, was experienced about the throat. These symptoms, first observed early in autumn, continued to increase in severity during the subsequent winter and spring, attended with debility and great nervous irritability, until May following, when he became completely aphonic. Obliged to relinquish his business on account of his feebleness, he passed fourteen months after the loss of his voice, before I saw him, in the employment of different measures for the recovery of his health. But failing in all these efforts, he came to this city for aid. His condition, on examination, was found to be the following: He was much debilitated, with a feeble pulse, and his voice reduced to the lowest whisper; he complained of pain in the larynx and under the sternal bone, and of a sense of uneasiness and constriction in the upper part of the throat. The mucous membrane lining the pharynx was covered with enlarged follicles, some of which were ulcerated; the tonsils were slightly enlarged, and the epiglottis much thickened, and its upper border serrated by ulcerations. This condition of the mucous membrane, as far as it could be seen, the pain and soreness in the larynx, the loss of voice, and other symptoms present, indicated ulcerations of the involving membrane of the vocal ligaments. This opinion was confirmed by the difficulties encountered in the first attempts to pass the sponge probang through the rima glottidis.

A strong solution of the argent. nitrat. (two scruples to the oz.) was applied to the fauces and pharyngeal membrane. The second day, the application was carried down to the epiglottis, and to the opening of the glottis; and on the third day, the vocal cords were reached, and fully cauterized. This last application caused much irritation, and for a short time severe pain directly in the larynx. This I have always found to be the case when a strong solution of the nitrate of silver is for the first time applied to ulcerations of the vocal cords. Subsequently, this pain diminishes on each application, and very soon ceases altogether. Ferruginous tonics, with other appropriate general treatment, were employed; and the topical remedy was continued daily for a week, when the ulcerations about the mucous membrane of the pharynx were found to have healed; and about the same time the soreness and irritation in the laryngeal cavity, and the pain under the sternum had entirely disappeared. In two weeks from the time when the local remedy was first employed, the voice of the patient returned, and vocalization in the course of a few days was fully and permanently established.

That the aphonia, in the above case, had its origin in an ulcerated condition of the mucous membrane of the vocal cords, was inferred from the presence of the symptoms which have been enumerated; from the fact that the sponge containing the caustic fluid, at the moment of passing the rima-glottidis (the space between the vocal ligaments), produced at this point a distinct painful sensation, as when an ulcerated surface of the mucous membrane is touched with the argentine solution; and also from another fact, which, when existing, reveals to the experienced operator, with much certainty, the presence of ulcerations of the mucous membrane in the cavity of the larynx. I refer to the fact, that when the sponge-probang is applied to an inflamed or thickened mucous membrane it glides smoothly over the part, as if passing over the surface of moistened glass; but when ulcerations of the membrane exist within the larynx, a distinct sensation of roughness is conveyed to the hand of the operator when the instrument is introduced into this cavity; and this sensation will continue, but diminishing as the ulcers heal, until the membrane is restored to its normal condition.

Several years ago, I had an opportunity of treating a gentleman in this city, who had labored many years under chronic laryngitis, or "laryngeal phthisis." All the symptoms of ulceration of the larynx were present, and when the cauterizations were made into the larynx this sensation of roughness of the lining membrane was very apparent. It diminished as the applications were continued, as did the unfavorable symptoms which attended this condition.

Some years afterwards, I had an opportunity of examining the larynx of this patient (who died of another disease), and found the mucous membrane of the ventricles and of the larynx covered with the cicatrices of old ulcerations, but which were quite healed. This morbid specimen I have still in my possession.

2. *Aphonia, from a thickening of the mucous membrane of the vocal cords.*

This lesion is of more frequent occurrence, I am confident, than is generally admitted. Many of those supposed cases of atonic aphonia where the loss of voice has been attributed to lesions of sensibility, have proceeded, I believe, from a slow hypertrophy or thickening of the investing membrane, and of the follicles of the vocal cords. It has been shown by Rokitansky, that not only hypertrophy of the mucous membrane of the air-passages may occur, but that the follicles of the larynx and trachea are frequently found in this condition. When this altered state of the lining membrane of the air-tubes is moderately developed, it presents the ordinary characteristics of hypertrophy of mucous membranes; but in a higher degree, Rokitansky remarks, "it especially affects the mucous glands, and in the larynx gives rise to glandular swellings of the mucous membrane, at those parts where the glands are most abundant, as for instance, on the vocal cords, in the ventricles, over the transverse muscles, and on the epiglottis."*

This variety of aphonia is generally complicated with, or the result of chronic follicular inflammation. Some ten cases of the disease originating in these changes of structure have come under my observation within the last few years. Most of these cases have occurred in females, and in a large proportion of them the disease had been considered as dependent upon impaired sensibility of the laryngeal nerves. You will recall one or two of these cases which were under treatment last fall, one of which was present when I had the honor of a visit from Dr. Marshall Hall, whose skepticism at this time, with regard to the medication of the windpipe, was somewhat dissipated by seeing the sponge-probang passed repeatedly into the trachea of some of the patients then present.

The history of this last case, which both of you, I believe, had an opportunity of seeing, will illustrate that change of structure of the vocal organs on which depends this most obstinate form of aphonia.

Case II.—Miss B., aged twenty-six, consulted me, December, 1852. At this time she had not spoken aloud for fourteen months. Six years before, in the spring of 1846, she took a hard cold, which was followed by a severe cough, sore throat, pain in her side, &c., for which she was treated by her family physician. She passed the following summer in the country, and was improved in her health; but in the succeeding winter the cough, pain in the chest, and irritation of the throat returned. In the summer of 1847 she was again in the country, by which her health was again improved. The return of the cold season of 1848 brought back all her unfavorable symptoms; and, although relieved as at former times by the recurrence of the warm season, yet cold or damp, and cold weather, invariably aggravated the disease. In the summer of 1849, after a slight exposure, she contracted a cold, and for three or four weeks was very ill. The thoracic symptoms were urgent; pain in the chest, severe cough and fever, for which active treatment was employed. After this attack she was more feeble than ever, and during the winter of 1850 her cough and other pulmonary symptoms were more persistent and severe than at any former period. But in the succeeding spring and summer a change of climate, as in former seasons, was resorted to, which was again followed with some degree of relief. Throughout this year she was attended by two intelligent physicians, who, together with a distinguished auscultator of this city, by whom her chest was examined, considered her case and treated it as one of confirmed phthisis. From November to May, 1851, Miss B. was not able to leave her house. During several months of this year she was affected with a chronic diarrhœa, by which she was greatly prostrated. Her voice, which had been hoarse for a long period, grew gradually weaker until October, 1851, when it became permanently extinguished. In this condition she remained, with but little change in her general symptoms, except some slight mitigation of them during summer weather, until the 25th of December, 1852, when at the request of her attending physician I saw her for the first time.

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* Manual of Pathological Anatomy, by Carl Rokitansky, M. D., vol. IV. p. 13, Sydenham edition.

Miss B. was quite feeble, emaciated, and had a pale, anxious countenance: a cough, with muco-purulent expectoration, was present. The respiration was hurried, and rendered more difficult on making the least exertion; and the voice was reduced to the lowest whisper. In the throat, the follicles of the pharyngeal membrane were enlarged and indurated, both tonsils were partly destroyed by disease, the epiglottis was twice its natural thickness and had a pale aspect. The arytenoid cartilages, examined by touch, were not œdematous. On examining the chest, the respiration was found weak in the upper portions of both lungs, with bronchial respiration. There was also slight dulness on percussion under the left clavicle. A few applications of the nitrate of silver had been made, by her attending physician, to the pharynx; and it was proposed to carry these applications at once, into the larynx; and a teaspoonful night and morning of the following preparation was ordered,—

℞. Potass. iodid., ʒ ij.,
Proto. iodid. hydrarg., gr. ij.,
Tinct. columbæ,
Syr. sarsa. co. aa. f ℥ ij.

and on the second day the attempt was made to pass the instrument through the rima-glottidis, but the space between the vocal cords proper was found to be too narrow for the passage of a sponge-probang of the smallest size. After continuing the applications, however, for several days, a small sponge was passed through the rima; and this application was continued every second day through the month of January. At the end of six weeks from the commencement of the local treatment, the general health of the patient had somewhat improved; but the voice was unchanged, except that the whisper, which at first was not above the ordinary respiration, was a little increased in volume; but by no exertion could the patient utter a word above the whisper. It was observed, moreover, that a larger instrument could be passed through the rima-glottidis than at first. Yet, still, the thickened and unyielding nature of the vocal cords could be distinctly felt, as the sponge passed between them. This local treatment was continued, though at longer intervals, through the months of February, March, and April, combined with appropriate constitutional remedies. In May, Miss B. was absent from the city a part of the time, and only a few applications of the caustic were made during this period. In July, the topical treatment was renewed, and with a confident hope of success; for, although the aphonia had been unusually persistent, yet it was found that the induration and thickening about the vocal ligaments continued steadily, though very slowly, to diminish; and along with this local improvement, the cough, and other unfavorable, general symptoms, had greatly diminished. At this time, too, a sponge, more than double the size of the one first employed, could be passed readily through the rima-glottidis. Inhalations of creasote were occasionally employed, and the applications of nitrate of silver continued until the 18th July, when, for the first time for a period of twenty-one months, Miss B. spoke aloud.

Her voice, at first, was feeble, but it rapidly increased in strength and volume; and vocalization, in a few weeks more, was fully restored. A change equally favorable occurred with respect to her general health: as the local symptoms improved, the cough, pain in the chest, and other indications of thoracic disease, diminished. She improved in strength and flesh, and has now (Feb. 1854) passed a period of eighteen months, since the recovery of her voice, in the enjoyment of excellent health.

In this case of Miss B., the disease proved the most obstinate of any case of the kind I have ever treated. I have had several instances of this form of aphonia come under my notice, in none of which was so long a course of treatment required.

In the case of a lady from Massachusetts, who had been for five years perfectly aphonic, the voice was fully restored by the employment of the local treatment for six weeks. In another instance, a patient from Connecticut, voiceless for more than three years, was perfectly restored in as many weeks.

In all these instances, symptoms, more or less marked, of thoracic disease, were present; and it has been a matter of great interest to myself and others to observe in these cases, how constantly the pulmonary symptoms have disappeared, as the causes of the local irritation have diminished.

3. *Aphonia from œdema of the aryteno-epiglottic folds.*

That form of inflammation which occasionally attacks the superior aperture of the larynx, and which is termed œdema of the glottis, is characterized, anatomically, by an infiltration of the sub-mucous areolar tissue of the aryteno-epiglottic cartilages; and whether the disease is idiopathic or secondary, it is always attended by entire loss of voice. The aphonia consequent upon this morphological change, does not exist in consequence of any alteration of structure about the vocal cords, for infiltration is here prevented by a very beautiful arrangement. Over these ligaments the mucous membrane is thin and adherent, having no sub-mucous areolar tissue interposed between the vocal cords proper and their lining membrane.

The loss of voice, in this affection, proceeds from the almost complete closure of the opening of the glottis, and the œdema of the arytenoid cartilages; and, also, from the morbid impression produced on the laryngeal nerves by the disease located in their immediate vicinity. In a small work, published by me some months ago, on "Polypi of the Larynx and Œdema of the Glottis," I have given several cases of œdema-glottidis, in all of which the voice was completely lost. But there occasionally occurs an intumescence of the aryteno-epiglottic folds, of a character less intense than that of true œdema. It accompanies catarrhal inflammations of a sub-acute character, and consists in an infiltration of the sub-mucous areolar tissue of the above folds, and is frequently attended with aphonia as in true œdema of the glottis.

The following case will illustrate this variety: Sept. 1, 1852; J. C. F., a young gentleman, æt. 25, came up from his residence, on Staten Island, this morning, to consult me in regard to the loss of his voice. Several weeks ago, Mr. F. took "a slight cold," to which, at first, he gave but little attention. Some degree of fever, with cough and expectoration, were present, and his voice, which was hoarse from the first, continued to lose its power until, on rising one morning two weeks before I saw him, he found himself quite incapable of uttering a sound aloud. His physician, finding the fauces and posterior wall of the pharynx inflamed, applied daily a solution of iodine to these parts, and administered an emetic, followed by expectorant remedies. These and similar measures, constituted the treatment before I saw him. The aphonia, at this time, was complete. A cough, with considerable expectoration, which appeared to come from the throat and upper part of the windpipe, was present. The patient suffered also from dyspnœa, which was much increased by the least exertion. The dyspnœa was characterized by that peculiarity which, more or less, attends all cases of œdema, when located at the aperture of the glottis; that is, the act of inspiration occurs with much difficulty, whilst expiration is performed without obstruction.

On examining the throat of the patient, this condition, indicated by the above symptom, was found as anticipated. By pressing the finger over the laryngeal face of the epiglottis, a small soft tumor was readily detected, occupying each lateral border of the glottis. Having learned, from past experience, that infiltrations of the opening of the windpipe are rapidly removed (as I have shown in my work on œdema glottidis) by applications to the parts of a concentrated solution of nitrate of silver, I immediately applied this remedy, by means of the ordinary sponge-probang, freely to the injected borders of the glottis. The applications were repeated daily, and the iodide of potassium was administered internally. Under this treatment the œdema rapidly diminished.

As the intumescence subsided, the dyspnœa, cough, and expectoration, diminished; and at the end of a week the patient could speak aloud. The local treatment was continued for another week, when all the unfavorable symptoms had disappeared, and the voice was restored to its normal condition.

As I have before stated, this œdematous condition of the aryteno-epiglottic folds is the frequent concomitant of catarrhal inflammations. The aphonia consequent upon it will sometimes remain for months under ordinary treatment, before the infiltration is sufficiently removed to allow vocalization to be performed. Besides, the swelling acting as a local irritant, at the opening of the air-passages, is very likely to awaken more serious organic disease, particularly in constitutions predisposed to tuberculosis. It is, therefore, of the utmost importance to detect this lesion in its earliest stage; and it may be discovered readily by the touch, as well as by the characteristic respiration. Once detected, it is most certainly and rapidly removed by the topical medication:

4. *Aphonia from œdema of the epiglottic cartilage.*

Œdema of the epiglottis is an alteration of structure of more frequent occurrence than the lesion of the aryteno-epiglottic folds, to which I have just referred. It proceeds from the same cause, namely, catarrhal inflammation, and consists in an infiltration of the sub-mucous areolar tissue of the epiglottis. The infiltration occurs on the lingual side of the cartilage, because of the great amount of areolar tissue on its anterior face. This causes the epiglottis to assume a very anomalous aspect; its edges are rolled back and approximated, and when the intumescence is considerable, it presents much the appearance of a round tumor at the base of the tongue. That variety of aphonia consequent on this lesion of the epiglottis, is frequently observed in epidemic catarrhs. During the prevalence of an influenza that occurred, to some extent, in New York, in the winter of 1853, I observed many cases of total loss of voice from this cause. Even within the present month (Feb.. 1854), during the cold and unusually damp weather which has occurred, some four or five patients, laboring under this form of aphonia, have presented themselves at my office for medical treatment. I will give a single instance of this form of the disease, arising from œdema of the epiglottis.

Case IV. A young gentleman, who, three weeks before, had had an attack of the prevailing epidemic, called on me, January 29, 1853. The disease, in its early stage, was attended by a total loss of voice; and it was in reference to this voiceless condition that my opinion was desired. Some degree of cough was present, attended with slight expectoration, but the respiration was but little affected. On depressing the tongue of the patient, the epiglottis was readily brought into view, and it certainly presented that very anomalous aspect to which I have alluded.

Extensive infiltration having taken place in the sub-mucous tissue on its anterior face, the cartilage was enormously enlarged, its lateral edges were turned backwards and approximated, and its whole appearance was that of a round, puffy tumor, lying at the opening of the glottis. Examining, with the finger, for the arytenoid cartilages, they were found to be not involved in the œdematous infiltration; and this exemption from the disease, in this location, accounted at once for the slight degree of difficulty presented in the respiration of the patient.

To procure a reäbsorption of the infiltrated serum, a strong solution of nit. argent. was applied freely to the epiglottis, and to the whole faucial region. A profuse expectoration of adhesive mucus, from these parts, followed the application. The topical remedy was continued daily, for ten days. Under its use the tumefied epiglottis diminished constantly; and at the end of a week, the patient could speak aloud, although his voice had a muffled sound. Continuing the applications a few days longer, the epiglottis, at the end of this time, was found reduced to its normal size, and the patient's voice and general health were fully restored.

That the loss of voice, in this case, as well as in many similar cases which have been observed, depended on the intumescence of the epiglottis, has been proved repeatedly by the fact, that when the epiglottis has been thus œdematous, voicelessness in most cases has been present; and, also, by the other fact, that the voice in some of these cases returned after the œdema of the cartilage had been removed.

5. *Aphonia arising from ulcerations of the mucous membrane of the fossæ which are situated between the columns of the palatine arch, but at their base, and external to the arytenoid cartilages.*

It has long seemed to me that the very great frequency with which ulcerations are found to exist in the lateral fossæ at the base of the tongue, and the equally important truth that very serious consequences not unfrequently follow their long continuance in these locations, are facts far from being generally known or appreciated by the profession. In connection with long-continued follicular disease of the throat, these ulcers are of every-day occurrence; and they not only affect vocalization, but, through constant irritation, kept up by their presence near the opening of the air-tubes, they awaken, quite frequently, more serious disease in the pulmonary organs. But, at present, I have only to speak of that variety of aphonia which is caused, occasionally, by these lesions.

Ulcerations of the thyro-arytenoid mucous folds may exist without inducing, necessarily, a loss of voice. When one fossa only is involved in the change of structure, vocalization is not ordinarily interfered with to any considerable extent. But, when both fossæ are ulcerated, the voice soon becomes hoarse and uneven, and is followed, at length, in some cases, by total aphonia. During the past ten years, I have observed many such instances of the disease; several cases have occurred, within a few months, in my practice. One of these, that of a gentleman from Kentucky, you will recollect having noticed. I will therefore illustrate this variety of aphonia by reference to his case.

Case V. This patient first called to consult me in October, 1853. He had then been for several months voiceless; and for twelve months, or over, he had suffered from chronic ulceration of the throat; for which, general treatment, with the use of astringent gargles, had been employed by his attending physicians, one of whom recommended him to visit New York and consult me. On examining the patient's throat, the pharyngeal mucous membrane was found thickened, and ulcerated at many points. Between the anterior and posterior columns of the palatine arch, on depressing the tongue, a large and deep ulcer was observed on either side, commencing at the base of the tonsillary gland, and extending down into the fossa as far as the eye could see. The epiglottis and the arytenoid cartilages were in a normal condition. An abundant muco-purulent secretion was being constantly hawked up from these parts.

There was difficulty of deglutition; but no cough existed, nor were there any other indications of disease within the larynx; still, this gentleman had been aphonic for several months. His general health had suffered from the local disease; for he was feeble, pale, and emaciated, exhibiting, in short, many of the external or rational signs of phthisis. But auscultation failed to discover any abnormal state of the lungs. With a small sponge-probang, the lingual fossæ were cauterized with a strong argentine solution (80 grs. to ℥ i.), and a drachm of the following mixture ordered to be taken twice daily:—

℞ Potass. iodid., ʒ ij.
Proto-iodid. hydrarg., gr. ij.
Tinct. columbæ.
Syr. sarsæ, co., *aa* f. ℥ ij.
M.

The cauterizations were repeated daily, until the 13th, when the ulcerated fossæ were nearly healed, and the patient could speak at this time in a loud, although a hoarse voice. After this he improved rapidly; the expectoration diminished, the difficulty of deglutition was gone, and in the course of another week, the patient had gained several pounds of flesh. He was able to converse with a voice as loud and clear as at any period of his life; and he left for his home with the intention, as he declared, of "stumping it for Congress" on his arrival in his district, in Kentucky.

That the loss of voice in this case, as well as in many similar instances which have come under my observation, depended upon the above lesions of the fossæ, may be fairly inferred from the results of the treatment. As no disease existed within the larynx, the applications were not made to the vocal cords, but external to the opening of the glottis, where the ulcerations were located. When these were healed, and not till then, vocalization and, ultimately, the general health of the patient were fully restored.

These lesions, on which depend this last variety of aphonia, are, I repeat, of very frequent occurrence, and are very frequently overlooked. Within a few days, since I commenced drawing up this paper, I have had an opportunity of seeing, in consultation with our distinguished friend, Dr. Valentine Mott, an interesting case of aphonia having its origin in ulcerations of the above fossæ. The disease, in this instance, had been of twelve months' standing; the lesions during this time remaining undetected, whilst constitutional remedies had been addressed, by the patient's medical attendant, to the general symptoms, which, although of a grave character, were only secondary, and of course remained unrelieved by the treatment.

Aphonia, then, I do not hesitate to declare, will be found to originate, at one time or another, in each and all of these structural changes, to which allusion has been made. Some of these lesions, I am aware, may exist without, in all cases, inducing aphonia; but I have the records, and could give you the history if necessary, of a large number of cases which have followed each of the pathological conditions. Some of these cases, as well as their treatment, you have observed; and many of them, you are aware, have been seen at my office, from time to time, by medical men from almost every part of the Union.

It will be unnecessary to enter into any details with regard to the treatment to be employed in the management of these different forms of aphonia. Whether the alterations of structure, on which the disease depends, consist in œdema of the parts, in ulcerations of the mucous membrane or its follicles, or in a thickening of the investing membrane of the cordæ vocales,—topical medication in the form of a concentrated solution of the crystalized nitrate of silver, has proved in my hands to be altogether the most effectual remedy that has yet been adopted. Constitutional remedies, when indicated, are to be employed, as in other cases where local disease is found complicated with general derangement. The different preparations of iodine, chalybeates, and other tonics, with the inhalation of creasote, are valuable adjuncts; but without topical medication, these latter measures are ordinarily of no avail.

PART II.—REVIEWS AND BIBLIOGRAPHY.

Homœopathy; its Tenets and Tendencies, Theoretical, Theological, and Therapeutical. By James Y. Simpson, M. D., Professor of Midwifery, University of Edinburgh, &c., &c. First American, from the third Edinburgh edition. Philadelphia: Lindsay & Blakiston, 1854; 8vo., pp. 304.

Homœopathy Fairly Represented. A Reply to Professor Simpson's "Homœopathy" Misrepresented. By William Henderson, M. D., Professor of General Pathology in the University of Edinburgh. First American, from the last Edinburgh edition. Philadelphia: Lindsay & Blakiston, 1854; 8vo., pp. 285.

The receipt of these works, sent to us some time ago by the publishers, was duly acknowledged on their arrival; and, instigated thereby to a notice of their contents, we have delayed publishing what was written of the one, until we could afford time to peruse and jot down what we thought of the other, and also to secure space sufficient to place side by side our sentiments on what *we* regard as two of the most remarkable and peculiarly interesting publications that have issued from the medical press for some time, even in this age prolific with theoretical dogmatism. Nor are we alone in thus estimating these volumes. They have attracted the attention of *literateurs* within and without the pale of scientific medicine. They have afforded abundant material for assault and defence, to the numerous critics who have reviewed their individual and comparative excellencies and demerits; they have provided, we have not the least doubt, the disciples of rational medicine and Hahnemann, with many wanted facts, statements, and arguments. It must be confessed, that in the zeal of controversy these systems respectively have, occasionally, been lost sight of, the authors have become the source of argumentative comparison, personal justification or recrimination, and their names adopted as party watchwords.

SIMPSON and HENDERSON have thus been constituted the representative types, as it were, of antithetical principles. Nor are such results without their use and value, especially to those who desire to form a judgment upon the books, and the great question treated of in their pages; a judgment which, being just to their literary merits, shall at the same time embrace a consideration of every point connected with their bearing upon the general interests and progress of medical knowledge and truth.

It will not be unprofitable, therefore, to consider, for a brief space before entering upon the examination of the volumes, who, what manner and fashion of men, the authors are; the circumstances which have given rise to these controversial works; the time at which they have appeared; and, lastly, the influence which they will probably exercise on the formation of public opinion, the regulation of professional conduct, and the destiny or future position of medicine in the scale of sciences.

Everyone who reads the title-pages of these books, learns that they have been written by colleagues in a university which for very many years has maintained the first position as a school of medicine,—a position which, as an alumnus, it is our pride to boast, our privilege to hope, will long be enjoyed by our *Alma Mater*. With such sentiments of veneration for the institution is mingled a feeling of regret that any heretical doctrine should be permitted, even for a short season, to cast a shadow on the lustre of her name.

During pupillage, and subsequently, while juniors in the profession, and in some measure *attachés* of the University, both these gentlemen were well known by their contemporaries as ardent and zealous students; both signalized themselves in the several societies which prosper under the fostering countenance of the colleges, were favorite clinical assistants in the infirmaries and other charitable institutions of the city, and gave promise of a future career of honorable usefulness in the ranks of the profession. Our own impressions at the time, founded on an insufficient basis it is true, but one most likely to mislead the immature judgment—we allude to the effect produced by mere personal appearance and manner—were, certainly, more in favor of the greater probability of a brilliant career for Dr. Henderson than his colleague. Not that we failed to appreciate, at that time even, the stern, dogged, unwavering perseverance of the latter, combined with a singular facility in methodizing his labor, and the comprehensive grasp of his intellectual powers. Still, there was a finish and apparent ease of accomplishment in the former, which rendered all his efforts at once successful and pleasing to witness. Both sought the advantage of intercourse with the continental schools; and here, we have no doubt, was brought to pass that moulding of the judgment and formation of opinion, which have, in latter years, so signally marked the career, illustrated the character and genius, and regulated the fame of both. We should have presupposed, even if deprived of the advantage, since gained, of noting the course of both, that the resolute and solid mind of the Professor of Midwifery would be uninfluenced by all the glitter of foreign mysticism and theory, at the same time that it garnered the gems of knowledge confessedly abounding in their records and literature; and that his energy and industry would be stimulated and encouraged, by witnessing the laborious research and painstaking investigations, particularly of the German savans; while, on the other hand, we were prepared to find the quick apprehension and active ideality of his colleague captivated and inoculated by the transcendentalism and fecund hypotheticism by which he would be surrounded and attracted. They are both good scholars, great readers, and both think much, but evidently not equally well. The one analyzes and selects; the other absorbs and adopts.

For some time previous to the death of Dr. Hamilton, the former Professor of Midwifery, Dr. Simpson was efficiently engaged as his assistant, and, on the occurrence of the vacancy, was, to the entire approbation of the profession, selected to fill the chair; a position which he has adorned, by a boldness of practice, an originality of opinion, and a brilliancy of achievement in the therapeutics and surgery of his department, that have, by common consent, placed him foremost in the rank of obstetricians. While thus profitably engaged in the prosecution of his speciality, he has, moreover, found time to employ his faculties and powers in the correlative branches of medical science. And one among other fruits of this zeal, is the sound, argumentative, and logically conclusive treatise under review.

The chair of General Pathology was, it is believed, specially erected for the occupancy of Dr. John Thompson, whose reputation at that time was most deservedly celebrated. To have succeeded such a teacher in so prominent a chair, was undoubtedly no insignificant honor. The prestige of such an appointment, while it naturally raised high expectations as to the efficiency of the new occupant, as naturally exposed him to the jealous watchfulness of those who had the renown of the institution and the advancement of medical science at heart—some of whom, perhaps, may have evinced a spirit of hypercriticism. In perfect equity, however, it can be asserted, that since his elevation to the important post he occupies, Dr. Henderson has not exhibited to the world any evidence by which one can arrive at the conclusion, that he is to be placed in the same category, as an authority in scientific and rational medicine, with either his predecessor or his colleague. Of his ability or merits as a teacher we have had no opportunity of judging; but we may be permitted to express a serious doubt whether he can be relied upon in this respect, when we find him thus openly defending and upholding a system so completely opposed to all which we consider sound and true in the philosophy of medicine. If he instructs his class in the universally received orthodox principles of the science, he must do so at the sacrifice of great violence to his own convictions, and thus be unfitted for efficient and useful tuition. If, on the other hand, he uses his position for the dissemination of his peculiar views, which we really cannot bring ourselves to believe he would do, then is he guilty of a breach of faith to the power which placed him in it, and of decorum and corporate obligations to his colleagues of the medical faculty. We have been given to understand that his heretical tendency was strongly suspected at the time of his appointment; in such a case, those who then possessed the privilege of investigating the claims of the respective candidates, are to blame for admitting him to a participation in the educational prerogatives pertaining to a chair in the University. On the anomaly of his continued tenure of office, we shall have something farther to offer in our subsequent remarks.

Such are the authors of the books before us; let us now inquire into the circumstances which would seem to have given rise to their publication.

Fifteen or twenty years ago, homœopathy was almost universally regarded as the wild and sickly dream of a disordered imagination; its propounder seeking, by its startling propositions, to build up for himself the notoriety of a discoverer, in a field more fruitful of success than the laborious and tardy progress of rational medicine afforded—human credulity. Its advocates, numerically, morally, and intellectually, were a comparative cipher—unprincipled and ignorant pretenders. With rare exceptions, they were illiterate, and but superficially acquainted with the meaning or principles of their great master, Hahnemann. Medical men seldom troubled themselves about their proceedings; never spoke of the system they professed, but with a good-natured smile of ridicule; and, as a matter of course, never dreamed of holding professional intercourse with the charlatans, to the extent of medical consultations on the case of a third party. Matters began to alter, however, as soon as the popular mind commenced to be imbued with the *furor Hahnemannii.* Infatuated invalids began to suggest to their medical attendants that it was prejudice which blinded them to the real merits of the new light in medicine; the insinuation was not unfrequently carried a point farther—self-interest was suggested as the opposing influence to the admission of homœopathists to the rights of professional confraternity. The younger men commencing life, with a long prospective range of difficulties to encounter, the men beginning to feel somewhat more secure in a gradually increasing business, and even the well-established and confidential *family* man, encountered the hardships and inconveniences of the practical interference of these interlopers. Loss of patronage was no uncommon result of a steady refusal to admit the truth of the doctrine itself, or to participate with its practitioners the emoluments and honor of attendance and treatment.

It is no matter of surprise that some should have yielded to the force of such a combination of adverse and impelling hindrances to success. Concession to the whim, or it may be to an honest belief, of their patients, as a means of retaining their favor, was naturally succeeded by a less rigid opposition to the advances of their rivals; and with many, we fancy ourselves justified in believing that the facility of assuming the knowledge and right to pursue the novel practice, was a strong inducement to render it subservient to the purpose of obtaining business which would, under other circumstances, have passed into the hands of another, and perhaps less scrupulous pretender. *Il n'est que le premier pas qui coute.* Such, at least, we know to have been the issue on this side the Atlantic, and we imagine that no very peculiar conditions obtain among the profession on the other side to prevent a similar result. The barrier once carried, it only remained for the proselytizing zeal and acumen of the homœopathists to extend the circle of their accomplices. Nor is it to be questioned that men of intelligence and scholastic acquirements, in view of the present and tangible benefits derivable from the adoption of the new creed, devoted their energies to its cultivation; and thence homœopathy has derived much of the adornment, in a literary point of view, which it cannot be denied has carried the works published on the subject at the present day to a degree far excelling the efforts of its earlier writers. Not that the truth of its teaching has been confirmed or demonstrated, but that all the extrinsic and circumstantial details illustrative of its false principles have been multiplied and presented in a more attractive form.

From whatever cause arising, however, whether from honest conviction, diplomacy, or the fear of the embarrassing results of an opposite course, it is nevertheless true that many members of the profession, regularly educated and legally qualified in Britain and America have been guilty of schism, and have both openly and covertly embraced the spurious tenets, and cultivated a reputation for the practice of homœopathy. The British colleges and medical corporations have sought by acts of exclusion and collective protocols to arrest the progress of this shameless and harmful degeneracy. An example which has been, and is daily being followed by the institutions of this country, where the disciples of homœopathy are perhaps more numerous and more completely organized than elsewhere.

Bold and earnest in the defence and propagation of truth and sound doctrine, Prof. Simpson early entered the field of controversy, and took an active part in the proceedings adopted on this subject by the Medico-Chirurgical Society of Edinburgh. Having once put his shoulder to the wheel, his untiring industry enabled him to collect the material and construct the masterly refutation of error now before us.

Emanating from such a distinguished and authoritative source, the homœopathists perceived the necessity and importance of an attempt to counteract the effect of this powerful and fatal blow. Feeling, it is fair to presume, that his reputation would only be more injuriously compromised by a farther delay in the open avowal of his conversion,—a circumstance previously well understood by the profession,—Prof. Henderson has published his Reply; thus yielding the weight and prestige of his name and position, as an offset to that of his colleague, to the promulgation of error.

If we carefully and dispassionately consider the history of current events during the last few years, in as far as the medical profession in Great Britain is concerned, we cannot avoid the conclusion that its internal government is most faulty and its external relations most unsatisfactory. The numerous factions into which it is divided, the dissensions which have arisen, the acrimony with which the discussions on the question of reform are conducted, all tend to substantiate the belief, that there are some latent, but not inactive, agencies at work sapping and undermining its integrity and well-being. One cannot be blind to the part which has been borne in this unharmonizing and disintegrating process by the restrictive prerogatives, and their somewhat monopolizing exercise, of the several corporate institutions which there exist.

The necessity of guarding safely the avenues to professional distinction and the right to practice medicine as an art, is undoubtedly most urgent; but it may be fairly questioned, whether, in the present enlightened age, this can be or is best accomplished by the jurisdiction of several distinct and to a very great extent antagonistic corporations. That the educational faculties and licensing authority should be separate and entirely independent of each other, would seem to be essential to the complete organization of a well-regulated system; at the same time that the former might be as numerous as the requirements of the public would seem to call for, their functions should be confined to the limits of thorough teaching and the conferring of honorary degrees; while the latter should be vested in one body, representative of the whole profession in each country, in fact a national court, whose functions should extend to, and be solely engaged in the regulation of a uniform curriculum of study and qualifications, the examination of candidates, and the granting of *ad practicandum* degrees or licenses. That some such final adjustment of the differences, jealousies, and numerous plans of reform which have been suggested, and upon which an attempt is now being made to legislate in Parliament, is devoutly to be wished; and the more speedily, provided it is completely and wisely brought about, the better for the interests of medical men, and what is perhaps still more important, for the public among whom they exercise their vocation.

But although the evils arising from sectional corporations are obvious and to be regretted, we question whether their influence is more prejudicial to medicine as a profession, than the exceedingly unsatisfactory state of the legal enactments affecting the practitioner. We do not advocate a system which would exempt a medical man from the strictest scrutiny into the consequences of his practice, simply because he happens to be a duly and legally qualified licentiate; but we do maintain, that a distinction should be made, as apparent to the eye of the law as it is to that of the reason, between the man, who, being conscious of his knowledge, and being possessed of the recognized certification of his ability to undertake the treatment of disease, honestly and conscientiously devotes himself to the service of the public, and him, who knowing his own educational deficiencies and ignorance of the principles of the art he professes to practice, recklessly ventures to tamper with human life. Let the errors of judgment of the former meet their desert in a loss of business and public confidence; let his carelessness or neglect be punishable by the judicial power; and let him reap the reward of wilful misconduct to the extremest point of his criminality;—but do not permit the latter, with equal facility and with greater impunity, to prey upon a heedless, undiscriminating, and as far as a knowledge of the human body and its healthy functions and morbid actions are concerned, an ignorant public.

It seems to us that from this source, viz. the protective tendency of the laws affecting quackery, springs much of that insufficient education, of that defection from the ranks of the legitimate profession, of that constant collision between true science and charlatanism, which are so characteristic of the present day. We know that it has been often said, and we are inclined to agree with the assertion, that it would be impossible to put down quackery by act of Parliament; that imposture in all its phases has existed through all time, assailing other departments of human knowledge as well as medicine; and that as long as human nature remains what it is, mankind will be exposed to its invasions. But we have faith enough in human progress to believe, that, although these may be truisms, there grows side by side with this all-pervading credulity, a plant as strong, and which, in each era of advancement, gathers fresh nourishment from the light of reason, and which must eventually overshadow and annihilate its antagonist—common sense, not inaptly termed by Dr. Simpson "our confession of faith, our standard." Men acknowledge and perceive that the true wisdom of all legislation is to prevent and deter their fellow-creatures from the commission of crime, rather than to devise means of punishment for the transgressor. Precisely in this point of view do we regard the necessity which exists for such laws as will not only make it criminal to undertake the treatment of disease, as a profession or art, or, to be more explicit, as a means of livelihood and gain, without a competent knowledge previously obtained by means established and prescribed by the same authority, but which will at the same time remove the wilful encouragement of false pretenders from the protection of the jurisprudence of the country. Punish the regularly qualified man for his shortcomings and delinquencies; punish the pretender for his dishonesty and presumption; but deprive the voluntary dupe of all legal remedy against the latter for the consequences of his ignorance and chicanery, and much may be done to prevent the success of his predatory machinations.

To bring within the pale of a correct judgment the several systems, schemes and absurdly hypothetical propositions, which, from time to time, have been boldly put forward as innovations in the science and practice of medicine, may appear to be a process surrounded with great difficulty, and obnoxious to much fallacy. But the test of experience, the force of sound philosophical reasoning, and the deliberate and well-matured opinion of those who only are able to determine the question,—the enlightened, learned, and scientific physicians of all countries,—must be the rational and wholesome method and means of determining such a question. Tried by such probation, theoretically and experimentally, it is clear to us that homœopathy must be classed in the ranks of empiricism; and hence we regard the ostracism enforced by the learned societies and colleges against those members who openly avow their adherence to its tenets, or covertly put in practice its doctrines, as a wise and just proceeding, due to themselves as conservators of professional faith and honor, protective of humanity, and righteous to the public, the victims of its pretensions.

That the insidious and treasonable attempts of the disciples of this and other equally preposterous heterodoxies, to unsettle the public mind and to sow discord among the followers of true science, are foremost among other causes which disturb the harmony of the profession, is equally manifest. We therefore regard the time chosen for the publication of Dr. Simpson's work as most opportune; and, despite the sneering allusion of Dr. Henderson, in the preface to his first edition, to the time employed in its preparation, no one who carefully reads it, with the candid desire to investigate the truth and force of his arguments, can deny that the time has been well employed, and the self-imposed duty faithfully performed. Equally timely in its appearance is the reply. The world have now the opportunity of deliberately weighing the arguments and sifting the proofs adduced on either side, by these exponents of the old and new, we would rather say, of the true and false, schools.

We will now briefly consider the propositions involved in the remaining point of interest connected with the publication of these books. And, first, with reference to the influence they will probably exercise on the formation of public opinion.

Perhaps on few matters of mere opinion is mankind so divided in its judgment, as on the propriety of answering an assailing opponent, whom we know or believe to be wrong, and whose assaults on the truth of our own convictions, or the rectitude of our actions, are unscrupulous, uncandid, and unphilosophical. It has been frequently and well said, however, that there is a point beyond which forbearance ceases to be a virtue. If this be true where only personal interests are at stake, how much more forcible the verity of the dictum when the larger claims of humanity are concerned, where the contest is not one between individual personalities, but between science and sciolism, truth and error! Viewed in this light, we must regard Professor Simpson's book as a defence of allopathy, necessarily involving an exposure of the utter emptiness and absurdity of homœopathy. Firm in his faith, stable in his opinions, he exhibits his strength by making apparent the weakness of his opponents, and this he does by submitting their crude and shallow theories to a comparison with the standard of common sense. Here is his vantage ground, and here it is the public at large will benefit by his labors. Not that, in a strictly scientific point of view, his book is deficient or not equally convincing; but with that we have at present no concern. We can readily conceive that there will be found some who will view his undertaking as emanating from motives entirely foreign to his nature, and who will stigmatize his work as a chivalrous crusade, somewhat Quixotic, against a harmless system of well-intentioned hypotheses. But, in the main, we are confident that the reflecting portion of his readers will see in his pages the strongest evidence of sound judgment, deep reflection, large experience, acute perception, logical reasoning, and candid statements, zealously employed and fearlessly published for the common good.

On the other side, we opine that the course adopted by Dr Henderson will strengthen the position of his antagonist; for, if his book contains some statements which are remarkable in their nature and bearing on his subject, and which being made in good faith, we are bound to accept as correct, and which, although they may be open to another explanation than he gives, are yet sufficiently and ingeniously illustrative of his mode and course of argument, yet the carping spirit of objectivism, the abundant employment of sarcastic raillery and satirical ridicule pervading his pages, destroy the force of his reasoning, and screen the points of his attack. His is truly a ruthless onslaught upon allopathy, a war of wit with his adversary, and is wanting in that calm, philosophic, and dignified ratiocination so well calculated to carry conviction to the intelligent, cultivated, and reflective mind. Such being our impressions, derived from a perusal of these books, with every desire to see the good in both, we cannot fear the issue. Time and sober reflection will restore the equilibrium of the public mind, for the present disturbed by the novelty, the specious garb of sophism, and the forward and pretentious advocacy, of an ephemeral fungus springing from the sturdy oak, and swelling on its bark.

But there is one fact connected with this controversy, which the discriminating public cannot overlook, and which must be productive of mingled feelings of surprise and painful regret. In a school of medicine deservedly renowned, and professedly orthodox—allopathic, if the term is more applicable and euphonious—they witness the anomalous circumstance of the occupant of one of the principal chairs, placing himself in an attitude of defiance and opposition to the rest of his colleagues; maintaining and advocating principles which they pronounce erroneous, and hostile to the true science of medicine; and, notwithstanding the significant and open action taken by them with reference to those professing the same opinions, inconsistently retaining his professorship, and obtruding himself on their counsels and fellowship. A house divided against itself cannot stand. What guarantee have the public that this is the extent of schismatic difference existing in the University? What confidence can be reposed in the institution, as a nursery of medical science and truth, when it is known that the Professor of General Pathology, whose office and function it is to demonstrate and explain to the student the morbid changes produced in the living structures by the ravages of disease, to trace the history of these phenomena, and exemplify the signs by which they may be recognized during life, in order to assist the student and practitioner in the careful and accurate formation of his diagnosis, openly declares that these morbid changes are not so much the result of the disease, if at all so, as of the treatment pursued, and the medicines exhibited by allopathic practitioners? If this is not striking at the root and basis of the entire system of rational medicine, we know not the meaning of ordinary language. If Dr. Henderson does not consider it to be consistent with his character as an honorable gentleman, voluntarily to relinquish the emoluments, renown, and prerogatives of his appointment, then ought he at once to be lopped off as an offending member. He is a Judas in the faculty, and will sell and betray the association with which he is connected. We can fancy his feelings to be none of the most enviable when brought into official contact with his colleagues, towards whom he has certainly employed language by no means flattering to them, or becoming to himself or the position which he so pertinaciously and with so much effrontery retains and prostitutes. We are well aware that the nature of the endowment, the source of the patronage by which he enjoys his professorship, and the right of nomination to it, are equally removed from the control of the Faculty of Medicine, or the Senate of the University, it being one of those baneful appendages to political partizanship and power, which are the curse and ruin of all purely scholastic establishments. But surely the same power which placed him there, can remove him; and there must be in government officials and civic corporations enough of common sense, sufficient honesty of purpose and sense of decorum, to detect and appreciate the moral impropriety and glaring absurdity of retaining a teacher who, in as far as the public is concerned, is a counterfeit, who is traitorous to the implied conditions under which he must have been appointed, who is inimical to his colleagues, and who, while drawing from the public a handsome revenue, as a public teacher in a public seminary professing certain fixed principles as the fundamental basis of all sound medical doctrine, laughs these principles to scorn, and indoctrinates, or attempts to do so, those who by the regulations of the college are compelled at least to *fee* him, and to attend his lectures, with the grossest error. It matters not whether his own convictions are correct, his own professions sincere; he was not placed in the University of Edinburgh to teach homœopathy, but allopathy.

Such an example of faithlessness, instability, and perversity, cannot exist without producing a certain amount of prejudicial influence on the conduct of those who are wont to draw the elements of their professional character from their *alma mater;* and many a grievous error committed by the younger branches of the profession, if educated under such evil auspices, will be fairly chargeable to the institution. But we hope for better things, and we confidently anticipate the day when this ancient and still admirable college will be thoroughly purged of its heretical members.

Like the trying and purifying fires of the assayer, this fierce flame of discordant and impotent schism will leave the genuine metal of medical truth to shine forth as purely and steadily as ever, even with increased brilliancy and endurance, when the adulterous alloy shall be completely destroyed. We do not apprehend that the present century will close with the spectacle of even a genuine professor of homœopathy in any institution in the civilized world. It will have passed away from the minds of all but the curious in the records of the past—its history will be read as corroborative evidence of the universality and persistence of the laws which govern psychical phenomena. We are becoming more reconciled every day to the periodic epidemical character of these delusions. Their occurrence, the characters which mark their duration and progress, the more intense the shorter, and the manner of their subsidence, all coincide with what we observe in physical diseases—the remission or intercycloid space is also well defined, and the exacerbation or recurrence tolerably regular in its period. We might extend the development of this similitude through all its details; but we have already occupied, perhaps, rather more than our fair proportion of space, and must leave the literary merits of the books themselves for a future number, contenting ourselves, for the present, with the declaration of our belief, that medical science will not eventually lose by that incubus which now retards its onward progress somewhat, although it cannot destroy its vitality. With Dr. Cowan, as quoted by Dr. Simpson, we would fully agree: "With us, as medical practitioners, the rejection of homœopathy is a question of principle, not of doses—a question of morals, and not of etiquette;" and likewise with Dr. Forbes: "In rejecting homœopathy, we are discarding what is at once false and bad, useless to the sufferer, and degrading to the physician." ‡

Clinical Lectures on Pulmonary Consumption. By THEOPHILUS THOMPSON, M. D., F. R. S.; Fellow of the Royal College of Physicians, London; Physician to the Hospital for Consumption, and Diseases of the Chest; author of "Annals of Influenza," prepared for the Sydenham Society, etc. Philadelphia, Lindsay & Blakiston, 1854.

It is well known to the readers of the MONTHLY, that Brompton Hospital, in London, was founded especially for the treatment of consumption and diseases of the chest. This hospital is built in a suburb of the metropolis, on a dry, gravelly soil, a spot selected for its known salubrity. It is sheltered on the north and east by the city of London, and open to the south and west; the wards are lofty and of good size, the corridors are light and capacious, whilst the coldness and dampness peculiar to the atmosphere of London, and highly injurious in diseases of the respiratory organs, are corrected by a method of ventilation that affords an abundant and constant supply of fresh air, which reaches the wards so modified as to keep them at the uniform temperature of nearly 65° in winter and summer.

To this institution, Dr. Thompson, the author of the above work, has been attached, as one of its physicians, we believe, from the time of its first establishment; and has, therefore, enjoyed peculiar advantages, which have been well improved, for observing and studying, systematically, diseases of the chest. These Clinical Lectures, which were originally delivered at Brompton Hospital, for consumption, and which contain the recorded results of the author's observations on the nature and treatment of pulmonary consumption, were first published in the *London Lancet*, for 1851. The favorable reception which they obtained exceeded the anticipations of the author, as he affirms; and, at the recommendation of some of his professional brethren, they have been incorporated in the present volume, with such modifications as further reflection has suggested to the writer.

Although Dr. Thompson, in this treatise, purposely avoids entering into an elaborate and systematic examination of the physical signs observed in thoracic disease, yet, in the introduction of his work, which is principally devoted to this subject, he has so arranged and elucidated the principal phenomena presented by auscultation, in order "to render this branch of science more simple and more readily comprehensive to the student," that practitioners, and particularly the student in auscultation, will thereby be greatly aided in the acquirement of practical knowledge in this most important method of investigating disease.

These Lectures, thirteen of which compose the present volume, are of a colloquial character, quite practical, and full of plain, good sense.

The work will prove, we believe, an important addition to our present knowledge of the indications and treatment of pulmonary disease.

Woman; her Diseases and Remedies. A series of letters to his class. By Charles D. Meigs, M. D., Professor of Midwifery and the Diseases of Women and Children, &c., &c., &c., &c. Third edition, revised and enlarged. Philadelphia: Blanchard & Lea, 1854. For sale by Roorback.

In a former number of this journal we reviewed the paper on "Acute and Chronic Diseases of the neck of the Uterus," in the Transactions of the American Medical Association, by Professor Meigs. We endeavored to give our readers a just estimate of its value, as "a help to clinical practice in an important and extensive department of medical and surgical treatment." With a forbearance which does not seem to have been appreciated, we confined our remarks exclusively to the practical value of the paper. That we fairly expressed the general sentiment of the profession, is evident from the significant action of the Association at its recent meeting in St. Louis. From the following letter, which appears in the July number of the New Orleans Medical and Surgical Journal, it will be seen that Professor Meigs does not entertain the most exalted opinion of American Reviewers.

PROFESSOR MEIGS'S PROTOCOL* TO CRITICS.

Philadelphia, *May* 6, 1854.

DEAR SIR:—As it is common to all men to prefer commendation rather than reproof, I could not well avoid a feeling of regret, not unmixed with surprise, on receiving your note of the 1st inst., which was marked "confidential." I regret, in the first place, that your Journal should be the medium by which I am to be assailed, and I was surprised to find that you should use it against a work of mine with which you are apparently not dissatisfied. At least, I gather from the tenor of your letter that you do not disapprove of the tract in question.

I am much obliged to you, sir, for the favorable expressions and kind wishes contained in the closing paragraph of your letter, and beg to assure you, you are quite correct in supposing that I "make a better use of 'my' time than those who read reviews of themselves after having written the best books extant." I believe there are not a few reviews of my publications that I have not read; and while it is true that I should thankfully receive and strive to improve every truly obvious suggestion in the way of emendation, I confess I have but very little concern in the opinions of angry and unreasonable or incompetent writers of criticism, some of which I have found to be beneath contempt for knowledge or temper exhibited by them.

I hope that I have not, by anyone, been charged with the indecency of praising my own writings, which have often been the subjects of very sharp comment. I know and admit that my writings have many faults; but I claim that even were I a good writer, I have been too busy a man to write with care, or with very special regard to the manner of expressing my thoughts. If I should have waited for time to write, I should never have made public a line on medical topics; and yet, as you know, I have written a good deal: perhaps I should have been a wiser man if I had never published a paragraph on medicine! and were I governed only by the opinions of these young gentlemen of our brotherhood, who *do* most of the American medical reviews, I should long ago have resolved never thereafter to open my mouth in their presence, but, holding my peace, leave them alone in their self-sufficiency.

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* The Editor is responsible for the caption to Dr. Meigs's letter. The Editor's note to Dr. M. was unnecessarily marked confidential. It communicated the isolated fact that the review was asked, not because of the reviewer's dissent, but because of the reviewer's ability. Those who turn to page 837 of the May number of the Journal will see the propriety of the note mentioned.

Dr. Meigs had not seen the review, nor did he know who the reviewer was, nor could he have been apprized of any special ground of dissent, at the time he penned his letter, as will appear in the sequel.—*Ed. of N. O. Med. and Surg. Jour.*

It is a difficult thing for a man to judge on a question of this kind. Here now are young people in New York and Virginia, and elsewhere, who review not my books only, but me, even when my books are not in the caption; and who inform the public that I cannot write English, and that what I do say is wholly unintelligible, and, worse and worse, that what I have written is "unworthy of his (my) eminent position."

I have not claimed to be in an eminent position, saving and excepting only, that I shall ever deem it a fortunate and creditable circumstance that I am sustained by my colleagues of the College, conjointly with whom I have labored as a public instructor of students of medicine, in perfect harmony and concord, for a great many years. This I presume, I may, without vanity, be allowed to regard as an enviable position, seeing that our medical brethren in the States do send to us a great number of their pupils, which is a certain mark of their confidence and respect.

I know not, then, what these young gentlemen mean by "his eminent position," unless they be pleased to refer to my writings, which nevertheless they do reprobate, and, I might say, truculently condemn and destroy —if they be, indeed, destroyed by these public spirited and most learned guardians of our sacred fane!

What would you have me to do, Dr. Dowler? Shall a man lay his hand on his mouth and his mouth in the dust, because a * * * writer of squibs shall deem him unworthy of his "eminent station"?

I do think that Heaven knows I never wrote for my own sake, but for the sake of my brethren, to whom I owe an unpayable debt of thanks and grateful respect for their goodness, by me scarcely deserved. I say that I am deeply in debt to my medical countrymen for the some thousands of their students whom they have permitted to hear my public lectures, and for their approbation of my writings, most clearly expressed in the fact that they have taken 15 or 20,000 volumes of them from my booksellers, and are now asking me for others that I am preparing to send them. In fact I have just finished for the binders a new and enlarged edition of my Letters on Woman, which I hope may be found emended as well as augmented, for it was much abused, with the rest.

I repeat, then, what ought I to do? Am I to believe the young gentlemen, the sophomore *scollards* [?] who assail me, or may I not venture rather to rely on the seniors, my brethren, who buy 20,000 volumes of my medical tracts, and ask me for others that are forthcoming. I have too good an opinion of American doctors to think they would purchase so large a library that has in it neither English nor common sense.

As to the particular tract which you tell me is to be reviewed in your forthcoming number, I will be so weak as to confess, I should be sorry to find it a failure, not on account of the personal mortification merely, but because I have good reasons to believe it contains much sound and wholesome instruction, well fitted to aid the young and inexperienced brethren in a difficult department of clinics; wherein many, nay the majority of us, commit the most scandalous blunders, and do the most blameable malpractice.

I hope I have not the least desire to rescue the volume, however much I confide in the principles and methods which I have inculcated, from a condign condemnation. Yet I confess it is hard for me to understand how it should be, that, while supposing myself to be very intimately acquainted with the history and bibliography of that particular subject, I should make the grave mistake of regarding the book as not only a useful but an original and novel exposition of these matters, if it should in the end prove to be not worth a rush. Assuredly, considering the place I have long occupied as a practitioner and teacher, the duty I owed to my brethren of being a man of studious habits, as well as a careful observer of diseases and results of treatment, I ought by this time to have learned something worthy of being told to others. Still, your reviewer may be a person far more variously and accurately informed than I, and so prove himself quite able to show that I have learned nothing in cases that have attracted much of my attention for many years. Let him, in that case, cut my book into shreds if he will; I shall endeavor to think no evil of him on account of his evil intent towards me, or my book rather. If he rails at us, much happiness and self-gratulation may he find in his railing. I shall endeavor to find contentment, nevertheless, and to that end perhaps I might do well to read in the Bible. In the 2d chapter of II. Book of Kings, I shall find a story concerning the prophet Elisha; he was old and well stricken in years, and so am I; he had a bald head, and so have I; he went on his way in the world, and so do I; he met angry and naughty boys, so have I; they scorned his gray hairs and hooted at his bald crown; probably they thought him unfit for his "eminent station," and they cried out upon him, "Go up thou bald head, go up thou bald head." The prophet turned and "cursed them," so do not I; and the Lord sent two she bears out of the mountain, and "they tare forty-and-two of those children that day." I am very sorry for the poor dear little Jew boys that were torn, and I hope my reviewers may keep clear of all such, and other vermin. And I even go so far in humanity as to trust, humbly, they will not feel themselves hurt by the reflection that their brethren and mine have bought some 20,000 volumes of medical works from a writer whom they so greatly disapprove.

I heartily reciprocate your kind wishes for my welfare; and, while I regret you should use your journal to do me hurt and damage, I am not the less an admirer of your talents and industry, and I rest with respectful consideration, Your serv't, Ch. D. Meigs.

Dr. B. Dowler, New Orleans.

P. S.—Were it not that you have marked your note to me "confidential," I would invite you to use your pleasure as to the insertion of this into a number of your Journal—not that I am desirous to defend my book against criticism, but only in the view of saying what I believe to be quite true—that I have reason to look upon my writings with less doubt as to their usefulness, on account of the undeniable fact that they have met with considerable favor at the hands of the medical public in our country. Yet, after all, perhaps your reviewer may have been pleased to say nothing that I should not be willing to agree to. In that case I should have no answer to make. C. D. M.

"Angry and unreasonable or incompetent writers of criticism"!—"beneath contempt for knowledge or temper"!—"young gentlemen who *do* most of the American medical reviews"!—"a * * * writer of squibs"!—"sophomore scollards"! &c., &c.

"Now, in the name of all the gods at once,
Upon what meat doth this, our Cæsar, feed,
That he is grown so great?"

Young gentlemen of our brotherhood who do most of the American medical reviews, lay your hands on your mouths, and your mouths in the dust. It is gratifying to know that the learned doctor does not curse such naughty young gentlemen, else we might fear that the blank in a phrase quoted was filled with an expletive. Dr. Meigs finds it hard to understand how he, who is "so very intimately acquainted with the history and bibliography" of acute and chronic diseases of the cervix, should have fallen into the "grave mistake of regarding the book as not only a useful but an original and novel exposition of these matters." We believe other authors have sometimes made similar mistakes. We trust that we have in some measure aided to free his mind from such a delusion. We congratulate the doctor on the fact, four times announced in this letter, that his writings have proved so saleable. If the public go on "asking for others," the number of volumes sold may soon equal those of the *soi-disant* Drs. Fitch and Beach. This would be at least quadruple the present number claimed by Dr. M., and if managed with the financial shrewdness which is supposed to have been evinced in the publication of the work on "Acute and Chronic Diseases of the Neck of the Uterus," it will doubtless add much to his solid comfort, and fully justify him in announcing the number of volumes sold eight times in his next scoring of young gentlemen who do the American medical reviews.

Our admiration of the genius, our appreciation of the real worth, and our respect for the "bald crown" of Prof. Meigs, prevent us from giving some extracts from a notice of "Woman, her Diseases and Remedies," by the "naughty boy" of the *New Orleans Medical and Surgical Journal*, who evidently has no fears of she-bears or other vermin. We do not know that we need to add any thing to the commendation of this work contained in the protocol above quoted—excepting that the publishers have furnished for the volume a handsome paper and good type. * * *

WE are constantly receiving books and pamphlets, which we endeavor to acknowledge at once, and to review at an early day. It is not, however, always possible for us to do justice to books, and to speak of all we should be glad to mention. Simply "book notices," as they are termed, in which a constant formulary of commendation is adopted for all publications, we do not think useful or desirable. Our reviewers are diligent, but we have not sufficient room for all that is prepared for the MONTHLY. We therefore crave the indulgence of all who favor us with their publications, and assure them we will do the best we can.

PART III.—CHRONICLE OF MEDICAL PROGRESS.

[The abstracts and translations found under this title are made expressly for the American Medical Monthly.]

PHYSIOLOGY AND PATHOLOGY.

On the Proportion of the Colorless to the Colored Blood-cells in the Healthy Condition. By Dr. J. Moleschott.

The proportion of the colorless to the colored blood-corpuscles, in the normal condition, has been stated by different authors as 1 : 8 or 1 : 10, but, recently, by Donolers and the author, it has been determined at 1 : 373. The author's present estimates are based upon calculations which were made upon seven individuals, at various epochs of life; and, with the exception of investigations with special reference to variety of nutrition, always an hour after dinner. The blood was always taken from the point of the little finger, and diluted with a saturated solution of Glauber salts. The field of vision was through hairs, which were fastened in the ocularium by means of a paper ring divided into six sectors. Each number given by the author forms the mean of calculations from seven different fields of vision. [We present only the mean of them, with the remark that the middle numbers do not materially differ from one another, and hope that the author's results, which well harmonize with the general views of the importance of the colorless blood-corpuscles, will find their conformation in more comprehensive calculations made according to the method of Vierordt and Welker.]

If we take the mean of all the calculations, we have for one colorless blood-corpuscle 357 colored; but taken singly—

In boys from 2½ to 12 years,	226
In youths " 21 to 22 "	330
In men " 30 to 50 "	346
In old men " 60 to 80 "	381
In females from 14 to 38 years, out of the period of menstruation,	389
In the menstruating, ...	247
In the same, not menstruating, ...	405
In the pregnant, ...	281

According to earlier experiments of Donolers and the author, the colorless blood-cells increase upon the ingestion of nutriment, and diminish upon fasting. The author confirmed anew this result. He examined the blood several times, in a part four hours after breakfast, part two hours after a meal poor in albumen (consisting of potatoes, rice, and apples), and then after a richly albuminous meal of beef, beans, and bread. For each colorless blood-corpuscle there were,

4 hours after breakfast, . .	466 colored,
2 hours after a meal poor in albumen,	356 "
2 hours after a meal rich in albumen,	282 "

Hereupon the author lays down the following principles. With increasing age the colorless blood-corpuscles increase in proportion to the colored. The blood of the boy is the richest in colorless blood-cells. The differences between youths, adults, and the old, are but small; nevertheless, the decrease after the middle numbers is steadily progressive. The female sex, independent of the time of menstruation and pregnancy, for an equal number of colored blood-corpuscles, has less of the colorless than the male. At the time of pregnancy, and still more during menstruation, the number of colorless blood-corpuscles increases. Richly albuminous nutriment increases the relative quantity of the colorless cells of the blood much more considerably than food poor in albumen.—*Medicinische Wochenschrift* [Vienna], 1854.

On the occurrence of Pigment in the Blood. By Dr. J. Planer.

The author has made use of the ample material of the Vienna dead-house, to direct his attention, after the example of Heschl and Meckel, to the appearance of black pigment in the blood, and the farther results of the same, as well as to the occurrence of sudden death. The pigment arises probably only as the result of previous intermittent fever, and often circulates long without producing any disadvantage at all, till, suddenly, from being retained in some portion of the capillary system, but especially in the brain, it calls forth local phenomena, in this case sopor, and generally symptoms which resemble typhus or cerebral disease. The pigment is black, more rarely yellow or brown, still more rarely red, and appears in the form of small, roundish granules, many of which are united, by means of a transparent, hyaline substance, disappearing in acids and alkalies, to corpuscles which possess frequently a roundish or oval, but often a very irregular shape, and whose size varies from 0.003‴ to 0.012‴. In such a corpuscle are at times only two or three, but mostly a larger number of pigment-corpuscles inclosed. The author did not find a nucleus in them, and doubts in general their cell-nature. Another portion of the pigment appears in the form of flakes, reaching 0.05‴ in size, which exhibit the most various form, and at times have upon one side such a sharp, partly rectilinear, partly concave or convex boundary line, that they appear as if broken off. They are either upon all sides, or only on one or the other side, surrounded by a clear, transparent substance, or the pigment is present in the form of greater or smaller granules, and united to a scale through the transparent substance. In two cases the author found in the blood from the right ventricle, well-formed hæmatoidine crystals in such a scale. The distribution of the pigment in the blood of the corpse is very different; the capillary vessels of certain organs are filled full of it, while others contain only a very small quantity. The author did not succeed in removing the color of the pigment by applying chlorine to a thin section of a liver filled with pigment.

In the blood of the heart and large vessels the pigment is tolerably equally distributed; the author could not convince himself of a special accumulation of the same in the blood of the portal and splenic veins. The largest quantity is constantly found in the spleen, so that this appears dark-brown, chocolate-like, frequently almost black, even in the cases where, in the liver and in the blood, only a very little pigment is to be found. The spleen is thereby sometimes considerably enlarged, softened; sometimes of normal size, or indeed smaller, more consistent, dry, blood-poor. The form and color of the pigment of the spleen accords with that of the blood. The proportion between black, brown, and yellow pigment was the same in the spleen as in the blood. The doctrine of the formation of the pigment in the spleen, the author considers not proven, since in the splenic vein and in the spleen, the quantity of the pigment appears to be no greater than in the liver and elsewhere. In the first place, there is no counter-evidence to show that the seat of the pigment-formation is not in the blood. The liver contains, in most cases, as considerable a quantity of pigment as the spleen, and has the like appearance; in particular cases, where the spleen is of a black color, little or no pigment exists in the liver. Some of the pigment of the liver exists in the vessels, whether all, cannot be said. The cells of the liver are simultaneously very rich in fat, and filled with brown, granular, bilious coloring matter, which, partly by its exterior appearance, partly by chemical reäctions, is easily distinguished from the pigment in question. Next to the spleen and liver, the brain is most richly furnished with pigment, and the gray substance is thereby colored ashy gray. Here it is evidently contained in the vessels. The white substance contains less in its vessels, and exhibits no alteration of color. The previous morbid phenomena proclaim that the pigment had accumulated already during life in the vessels of the brain. The flakes are so large that they cannot possibly pass unbroken the fine cerebral capillaries, and they also serve as the first hindrance to the circulation. The author also observed several cases analogous to that described by Meckel, in which, at the same time, capillary apoplexies had been produced in the brain by the stasis of the pigment; larger hæmorrhages did not occur. In the kidneys, the pigment appears in smaller quantity, and especially in the Malpighian capsules and the capillaries of the cortical substance, still less in those of the pyramids.

The author also saw in the kidneys some of the smaller vessels filled with old coagula and slight hæmorrhages. In the vessels of the lungs the abundance of pigment varied very much, it was often considerable without the usual black pigment in the lungs having been displaced; in other cases there was only a very small quantity of it to be found. In the vessels of the remaining organs and tissues the pigment had never accumulated in any considerable quantity; there was observable, however, in many cases, a striking coloration of the skin, cellular tissue, mucous membranes, and lymphatic glands.—*Schmidt's Jahrbücher, June*, 1854.

Bernard on the conditions under which certain substances, usually retained in the blood, pass into the urine.

During active digestion, the blood of an animal contains a certain amount of sugar, which does not pass into the urine; but if the mass of blood be diminished by bleeding, the urine soon becomes saccharine. If we inject a limited quantity of saccharine matter into the blood of an animal (½ gramme for a rabbit, fasting, of the weight of 2 kilogrammes), the urine will contain no trace of sugar; but if the animal be bled before being subjected to this experiment, a certain quantity of sugar will pass into the urine.

M. Bernard explains these phenomena by considering that the loss of blood renders the animal of less volume, reducing it to the condition of one of smaller size. It is known that small animals may be poisoned by doses easily borne by larger animals of the same species; and animals, after being bled, cannot withstand the same dose of a poison which they supported previously. These facts were formerly attributed to the increased absorption caused by the withdrawal of blood; but in the experiments above related, absorption had no part, as the substances were introduced directly into the circulation.—*Soc. de Biologie*, 1853, *in Monthly Jour. Med. Science.*

PART IV.—HOSPITAL RECORDS.

[This department of the MONTHLY is under the charge of, and compiled and written by, Henry Melville, M. D.]

Cholera.—The leading feature in connection with this subject is the establishment and organization of the several hospitals for the reception and treatment of the disease in this city and in Brooklyn. The Commissioners of Emigration, in conjunction with the Board of Health, having appropriated the building occupied by the former as an office, in Franklin street, the resident physician, Dr. Rockwell, was requested to supervise the necessary preparative arrangements for the reception of patients, and the following gentlemen were appointed as the medical staff: Dr. J. H. VANDERVEER, physician in chief, whose duty it is to be present during the day, to regulate the reception and treatment of the cases admitted, and to keep the needful records. Drs. J. H. Richards and C. H. Budd are the present assistant physicians, whose duty it is to be present alternately during the night and day, and to conduct the treatment of the sick.

Much opposition has been raised by the press to this establishment. In our view, this opposition has been somewhat ill-judged. There can be no doubt that it would be always preferable, in the establishment of institutions for the reception of disease, to place them as far out of sight as is consistent with the convenience and comfort of the citizens; but it must not be forgotten, that for the purposes of an epidemic of the speedy course and short duration which characterize cholera, due regard must also be had to the practical utility of the hospital. One point in this qualification being, its contiguity and accessibility to the infected localities. In this point of view Franklin street is very convenient to those streets from whence the larger proportion of cases is brought. Again, it is doubtful whether the Commissioners or the Board of Health could have obtained a building for the purpose if they had set to seek one, or at least they might have experienced much difficulty in doing so, and have encountered great delay, such is the prejudice of landlords against the using buildings for similar purposes, even in times of emergency. Having the building now used in possession, and it not requiring much, if any, alteration to make it serviceable, they were justified in at once acting as they have done; at least, we are confident that it will be found to have comported very effectually and seasonably with public safety and protection.

We do not mean to affrm that the locality, or the building, the mode of its arrangement, &c., are the best which could have been made, if the selection and preparation have been done leisurely before the disease had made its appearance, but as alternatives in an emergency they answer very well; at least the measure of success which has hitherto attended the treatment of those cases brought in, would seem to show no local disadvantages attending the selection of the building, nor have we heard that the disease has spread or been propagated in the street or neighborhood.

The total number of cases received at the Franklin street hospital up to the 27th ult. (the date at which this article went to press), was 300. Of this number, 155 have died; 118 have been reported discharged as cured; and there were 43 remaining. This is a very large proportion of cures. We have not any means, at present, of analyzing this return, but it is fair to presume that a considerable number of those reported as cured were either such cases as were brought in early, and thus promptly submitted to treatment, or were really only aggravated cases of diarrhœa, with a choleraic tendency, such as are common during the epidemic of the graver malady. It will be interesting, at a future date, to discriminate between the ratio of recovery in cases wearing all the well-marked characters of Cholera Asiatica, especially when they have proceeded to collapse, and those which are merely of the description above alluded to. Such information we hope yet to be able to obtain through the politeness of the medical officers attached to the several institutions.*

From what we have seen, and from all we have heard as the observation of others, the present epidemic is characterized by a marked absence of spasm of the extremities. The chief seats of spasmodic action, as evinced by the attendant pain, being the diaphragm and abdominal muscles, possibly, also, the coats of the intestines. Some cases have been accompanied by an eruption somewhat purpuric in its appearance. Dr. Vanderveer relates a fact worthy of note to all who have the charge of hospitals, or possess facilities for making postmortem examinations, viz., that in addition to a copious effusion within the cranium, *he has, in a considerable number of cases, observed a large amount of effusion within the spinal canal.* On tilting some bodies, after removing the contents of the cranium, *as much as from four to six ounces of fluid* have been observed to flow from this source. This fact is not without its value in the consideration of the pathology of the disease, and should be carefully looked to by all future investigators, as also the conditions of the substance and membranes of the spinal marrow and of the efferent nerves and connecting ganglia. The consecutive fever seems also to be quite as formidable and not more amenable to treatment than in former epidemics.

It is worthy of remark that a very large proportion of the deaths which have occurred, has been in those who had recently suffered from attacks of acute disease, or were laboring under chronic affections of some kind.

There still occur, within the wards of the several city hospitals, occasional cases of the disease. Among these we may more particularly allude to Dr. Dennis, the amiable and talented resident assistant in the obstetric department at Ward's Island. He was seized, in the first instance, with diarrhœa, which after a time assumed a dysenteric character, and from a great amelioration in all the symptoms, hopes were entertained that he would ultimately recover. Suddenly, however, there was a recurrence of large liquid evacuations, and he very rapidly sank. In his case there would appear to have been a strong predisposing cause from the great apprehension existing in his mind of an attack of the malady. He was a young physician of great promise, and his loss has been keenly felt by those who were brought in daily contact with him. He has fallen a martyr to the cause of medical science: a glorious example to the young aspirant for professional fame. It is only in the field of observation of disease that sound practical knowledge can be obtained, and he who steadfastly maintains the post of danger in pursuit of that great requisite, deserves encouragement and praise.

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* Another hospital has been established in Mott street, between Spring and Prince, a building formerly used as a Ward School. It possesses accommodation sufficient for about 150 patients. Dr. D. S. Conant, the Demonstrator of Anatomy at the New York Medical College, has been appointed Chief, with Drs. O'Reilly and Stiles as Assistants. It has not been in working order long enough to afford any statistics worthy of comment, but it will be a relief to the Franklin-street hospital.

Accounts from various points of the union represent the disease to be very general and malignant. In Canada, especially at Montreal and Niagara, its ravages have been very fatal. Among its victims at Montreal is Dr. McCullogh, a highly respected and well known physician, who died after a few hours' illness. His death has cast a gloom over the community in which he resided, where his skill, zeal, moral worth, and social qualities will long be remembered.

Ward's Island.—At this institution a very interesting case of double popliteal aneurism was under treatment. Dr. Carnochan tied the right femoral, and the wound was progressing favorably, when the patient died from cholera. The postmortem examination verified the diagnosis, which had been somewhat obscured by indistinct pulsation and not well-marked bruit or thrill. The aneurisms were both true ones; that in the right leg being very large and filled with coagulum, that in the left being about the size of an egg.

There was also a case of very large mammary cancer, attended by disease of the axillary glands—the tumor had ulcerated and was discharging freely. The whole mass of disease was removed, and the parts are healing kindly. The operation was considered justifiable as a measure of present relief to the patient's sufferings; and where no immediate evil consequences take place the surgeon is fortunate who succeeds in this attempt. The respite granted to the patient can only be temporary under the best combination of circumstances; some surgeons, therefore, entertain grave doubts as to the propriety of operative interference in such cases; the best rule would appear to be, to follow the desire of the patient after having fully explained the nature of the disease, the risk of an operation, and the general result.

There still is a tendency to hospital gangrene in the surgical wards, and cholera makes itself seen in every portion of the Island.

PART V.—EDITORIAL AND MISCELLANEOUS.

Justice to Physicians.—In our May number we took occasion to express our sentiments pretty fully concerning a wide-spread slander on the medical profession. It is gratifying to know that those sentiments are fully endorsed by physicians, and that it meets with a kind reception from the best part of the community. In the hope that some encouragement may be found by others in well-doing in the following from *unprofessional* pens, we make these two quotations. Both are from the *Churchman*, published in this city. The first is from the pen of the editor, the Rev. H. N. Hudson, prefacing a quotation from our own article. The second is from a non-medical correspondent:—

"But our main interest in the paper draws to what the writer says touching the charge of materialism and scepticism brought against medical men. And here our observation and sympathy are entirely with the writer. Nor can we understand either the wisdom or the justice of making such charges. Sceptics and materialists, no doubt, there have been and are in the medical profession; and so there are, or something as bad, in the clerical; but the number of such is in proportion by no means so large as to furnish any just ground of reproach upon them as a class. If, in such cases, the faults of a few are to be thus visited on the whole, what profession can escape? Therefore, the thing is unjust. And it is equally unwise. For the medical profession have, and it cannot be taken from them, for they deserve it, very great influence. Whatever may be said of individuals among them, they are as a class known to have great solidity of judgment and rectitude of character. Their ministrations are needful to all, and sure to be sought by all; and the nature of their work cannot but give them great power over the opinions and sentiments of those to whom they minister. Is it wise, then, to think of drawing people to Christianity by representing the medical profession generally as not believing in it? So that, even if the thing were true, sound policy would pronounce it one of those truths that are to be spoken with a good deal of discretion and reserve. It is indeed but a scion of that old and most mischievous error which would still be seeking repugnances and making issues between revelation and science, as if the Word of God could be more authentic and sure than His Works.

"We have been thrown much, very much, into the company of medical men. And the experience we have had of them yields no sort of countenance to the charge thus brought against them. Our firm conviction is, that there is no class of men from whom there is more to be learned which the clergy ought to know, or less that it is wisdom to be ignorant of. Nor do we believe that any profession numbers, proportionably, more, or more intelligent and earnest, supporters of religion, of good morals, and sound learning, of every thing indeed that looks to the well-being of society. The church certainly reckons among them a great many of her most faithful and most useful members. It is in her sacred walks that we have been most used to meeting with them ; and we have seldom failed, according to our poor capacity, to find them at once right-hearted, sound-minded, and free-handed in her cause. The numerous and pestilent quackeries that beset their profession, and the experience they are obliged to have of them, enables them, in a peculiar degree, rightly to understand and appreciate the no less numerous and pestilent quackeries that swarm in religion. On many accounts, indeed, they deserve well of the church and of the clergy. That, as a class, they are not easily humbugged, arms them with a strong title to confidence in a cause where, as it is not "of an age, but for all time," men are not apt to fix their interest or their pleasure in cheating or in being cheated. Moreover, we have private as well as public reasons for standing up for them in such measure as we can, and with such strength as we have. For we have ourselves known what it is to be poor and friendless, and to have some not ignoble aspirations which we were without the means of answering; and in such cases there have always been some of them to stand by us : in other words, we have found too many generous benefactors among them to see them touched without feeling a little touched ourselves."

MR. EDITOR :

Dear Sir: Although not a physician, I read with no ordinary feelings of pleasure your vindication of the medical profession from the stale slanders which now and then come from those whose education and opportunity of observation ought to teach them better. That the study of the structure of man tends to make men materialists and infidels, is one of those maxims that men take for granted to be true, merely because of their antiquity, and because they have always heard them, and never stopped to examine into their truth. In times when all knowledge, except what came through the channel of the Church of Rome, was held to be heretical, it was to be expected that men who devoted their time and energies to studies out of the church should be looked upon with a jealous eye. But it is strange, now, when anatomy and physiology are incorporated in the studies of every highly-educated man, that any but the unlearned should repeat a long-refuted and exploded slander against a profession which ranks highest in human art, both as a scientific study and for its humane objects. It is not my purpose, however, to discuss this subject; I merely wish to point to a remarkable illustration of the truth of a portion of your remarks, brought under my observation only a few days after reading them. I refer to the deplorable accident of the fourth of July on the Baltimore and Susquehanna Railroad. I wish, also, to make a suggestion which that horrible scene brought to my mind.

Immediately that it was known that there had been an accident, and that fellow-creatures were suffering and dying, the physicians within riding-distance were promptly on the spot, to render aid in preserving life and alleviating pain, by setting limbs, dressing wounds, and superintending the removal of the wounded. This was not, as they might say who speak slightingly of those whose aid they are most clamorous for in their own sufferings, for the sake of a fee ; for the work—on the sultriest of days and at a distance from water—work long-continued and of the most laborious kind, was performed for persons utterly unknown to them, whose names they did not even stop to inquire, and whom they never expected to see or hear of again. Moreover, when it was suggested, afterwards, that the railroad company could be made to pay them for their services at the place of the disaster, the suggestion was not, at least by those whom I have seen, for a moment entertained. They declined to seek pay for services prompted only by feelings of humanity.

My visit to the ground was not to gratify an idle curiosity or to moralize, but while engaged in assisting the dying and wounded or in removing the dead, I could not but think how acceptable would be the services of the physicians of the soul—the labors of those who profess to be engaged only in a work of love and for the sake of love. I am far from wishing to make any comparison between the medical and the clerical professions, but might it not as naturally occur to the clergy, that in the agony of *mind* which such an accident occasions, there is need of men to *talk* kindly, as well as to *act* kindly,—for which the actors have no time,—to sympathize, to soothe, to direct the thoughts of the wounded heavenward, before the supervening fever shall send them delirious to meet their God.

There are more clergy of the different denominations (though none of the church) in the neighborhood than there are physicians; and had they been as prompt to lend their aid, I know that their services would have been as acceptable. I speak from actual knowledge; for I could not refrain from occasionally ceasing from my labor to sit by a sufferer and converse with him, and I had ample evidence of the thankfulness with which my efforts were received; especially on the part of one poor man, whose moments of consciousness were none too many to prepare for the change that three days brought upon him.

The suggestion, then, that I wish to make—to which I am prompted by the advice of a clergyman, a near friend, a pious and a practical man, is, that the clergy be as prompt to repair to the scenes of disaster as the physician. Actual observation convinces me that there is nothing impracticable or visionary in the suggestion; and it cannot but increase respect for the profession, when the world sees the self-denial and manifest disinterested exertions of its members. H. O.

Baltimore County, *July*, 1854.

SODA WATER.—At the request of several apothecaries, and others interested in the preparation and sale of soda water, I have visited some establishments where the copper fountains are made and tinned, for the purpose of suggesting modifications which might prevent poisonous impregnation.

That some investigations are requisite, may be judged from the fact that one copper-smith acknowledged it was his custom to facilitate the flow of the tin by the use of soft-solder (an alloy of tin and lead), and, in consequence of its cheapness, he made the coating thick, thus exposing a large surface of lead to the corrosive action of the acid water. He obligingly opened an old fountain, the inspection of which verified the truth of his assertion; for the soft solder was abundant. He expressed his belief that this was a common practice. Many, therefore, who deem their fountains reliable, because recently tinned (?), will find themselves grossly deceived, unless they are sure that the purest block tin has been employed.

E. Knox, a copper-smith in Fulton-street, I found, coated the copper vessels thoroughly, and with the purest block tin. (I mention his name, because to his careful and conscientious workmanship many owe a debt of thanks for the preservation of their health.) He informed me that fountains were often used four or five years without being re-coated; some he knew had not been tinned for eight or ten years! so great the carelessness, that the tin, at times, is found entirely removed from the bottom of these vessels. The mechanical action exerted by the liquid as it is introduced through a tin or tinned pipe, and has its momentum checked at this point, together with the blows which the bottom of the heavy vessel must occasionally receive, aid the chemical action of the acid liquid in removing the protecting coat. Hence, it is the custom to tin this portion of the fountain more thickly.

Without discussing this subject too elaborately, I would sum up the results of these examinations by suggesting, in the first place, a modification in the form or shape of the copper fountains. All these vessels should be so constructed that they may be readily opened for inspection—not, as at present, requiring to be unsoldered. The methods now employed for determining their fitness for use, are by chemically testing the soda water, or examining by the sense of taste. Most commonly, as the first indication of the removal of the tin, customers complain of the coppery flavor.

Both of these methods are untrustworthy; for even though we grant that those vending the soda water are competent to test for its impurities (which, in the case of confectioners and others, is not probable), yet after a fountain has been examined, and pronounced to contain a pure liquid, by standing several hours or several days (for during a spell of cool or rainy weather this may occur in any establishment), a poisonous contamination may take place. On the acuteness of our sense of taste we must not place great reliance, since the metallic flavor may be disguised by the syrups. Furthermore, the copper only can be recognized by this sense; the lead would escape detection.

Again, it by no means follows that because one is not seized with vomiting, cramps, &c., that he is uninjured, for small doses oft-repeated, may prove deleterious. This is especially true with regard to lead, as will be seen in the accompanying letter. Although it may reasonably be conjectured that a recently tinned vessel may last through a single season, yet as the coating is occasionally porous in certain parts, the copper may be exposed to and corroded by the action of the carbonic acid, so that even after the introduction of a few charges the vessel may be unfitted for use,—another argument for the construction of the copper fountains in a way that they may be examined with facility.

2ndly. No lead, or alloy of lead, should be employed in any part of the soda apparatus with which the carbonated water is brought in contact, not even to attach the tin or copper-tinned pipe (which is introduced within the receiver) to the stopcock—a common practice; this soldered part is often found corroded. Of course, no lead pipe should be used, be it ever so short. As an illustration of this point, I here introduce the following interesting letter, for which I am much indebted to the author:

228 EIGHTH AVENUE, JULY 7TH, 1854.

SIR—Having seen a paper written by you in the "*American Medical Monthly*," on the "Poisonous Effects of Soda Water from Copper Fountains and Lead Pipes," I beg leave to cite my own case as an entire corroboration of your analysis.

Last summer I owned a drug store situated on the corner of 16th street and 3rd avenue; I kept soda water for sale, which I procured from —— (one of the best manufacturers of this beverage in New York). The fountains were placed in the basement, and communicated with the store by means of a long leaden pipe. I used frequently to notice that parties upon drinking the soda water would be attacked with sudden vomiting, pain in the epigastric region, &c. It did not strike me at the time that it was owing to any poisonous substance impregnating the liquid; but I rather ascribed it to the presence of flatulence in the *primæ viæ.* During the excessively hot weather I indulged pretty freely myself in the beverage. It is true, after drinking a glass, I was frequently attacked with vomiting, but I did not pay much attention to the fact, believing it originated from the cause mentioned above. After drinking daily a considerable quantity of the beverage for three weeks, I was attacked with *Colica Pictonum*, as pure a case as ever I had the lot to see. I was full ten days before I recovered from it, and it left me excessively weak. I was satisfied after this attack, that the soda water was impregnated with lead; I tested it, and found such to be the case. I immediately declined selling any more.

You are at liberty to make what use you please of this communication.

I am, sir, yours respectfully,

JOHN B. WILLIAMS, M. D.

3dly. All the stopcocks should be silvered or tinned internally, the brass or composition ones as now used, are often stained with verdigris.

4thly. Care should be taken to avoid the use of any composition of copper or of lead in the construction of the *exit pipe;* for this being exposed alternately to the action of the air and of the soda water, the oxygen of the one and the carbonic acid of the other would ensure a speedy corrosion. They should therefore be carefully silvered.

5thly. All the carbonic acid gas should be thoroughly washed by bubbling it through water before it enters the condensers, to free it from any impurities in the shape of spray which might pass over from the generator.

But why should we be deprived of this refreshing drink? Why should we not have this sparkling beverage uncontaminated? than which, when pure, there is none more palatable and popular during the summer season. That it is possible, I refer to some facts presented in a letter from a gentleman in Boston; he says, "Burnett's stone fountains are of earthenware, made in the usual form, covered externally with copper and circlets of iron to secure strength. A block tin pipe leads from the fountain to a tank where it is coiled in a worm-like manner and covered with ice; thence to the counter where it terminates in a silver mouth-piece or exit pipe." How strikingly this contrasts with the carelessly tinned or soft-soldered copper fountains, with their brass stopcocks and long coils of lead pipes for coolers!

As far as the pecuniary interests of many are concerned, I regret that calling the attention of the public to this subject should have been in the slightest degree prejudicial. Yet, if it shall tend to the securing of a pure, wholesome, and refreshing draught in lieu of an injurious or poisonous one, the more insidious because of its unsuspected character, I feel assured that no honest persons would be disposed to censure, even if it proved to them a temporary loss, and least of all, those who make it the business of their lives to aid the physician by the dispensing of pure medicaments for the relief of suffering humanity.

R. Ogden Doremus, M. D.

[The following note was received too late for insertion in the last number of the Monthly.]

June 20*th*, 1854.

Mr. Editor:—

Some of your readers may remember that in the case of *Lorenzo Slack* vs. *Dixi Crosby*—the same being a prosecution for alleged malpractice in treating a fractured os femoris for the plaintiff—the jury gave a verdict for the plaintiff, and mulcted Prof. Crosby to the amount of $800 damages.

I am happy to say that this case has been recently reviewed at Woodstock, Vt., and the *previous decision has been reversed.*

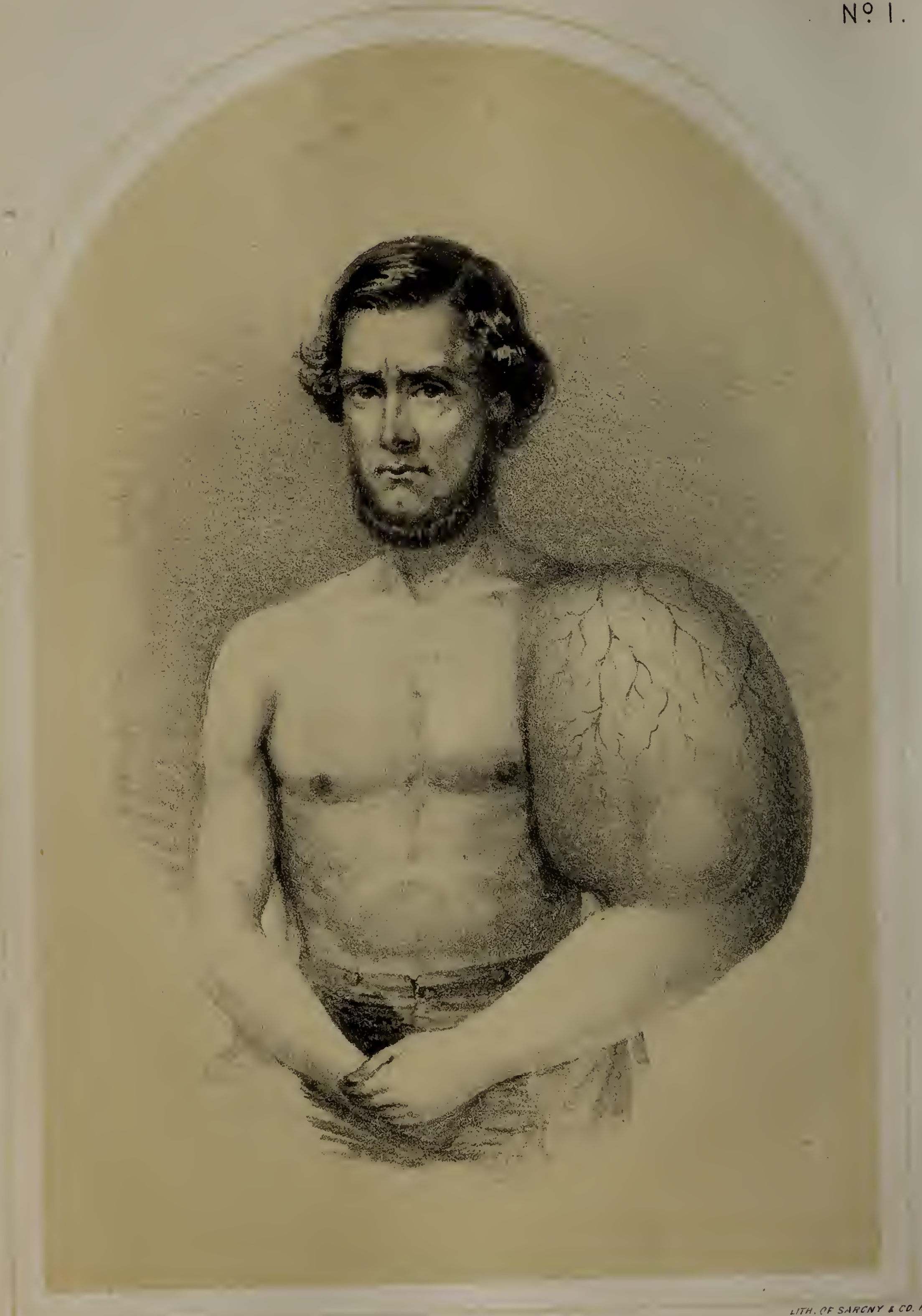
It is a just cause of congratulation on the part of the profession throughout New England, that at last, though so late, justice has been rendered to Prof. Crosby. I am informed that not less than *forty suits for malpractice* would at once have been commenced in the State of Vermont, had the decision made a year ago been confirmed.

Yours truly,

E. R. P.

DR. CARNOCHAN'S CASE OF AMPUTATION AT THE SHOULDER JOINT.

No. 1.



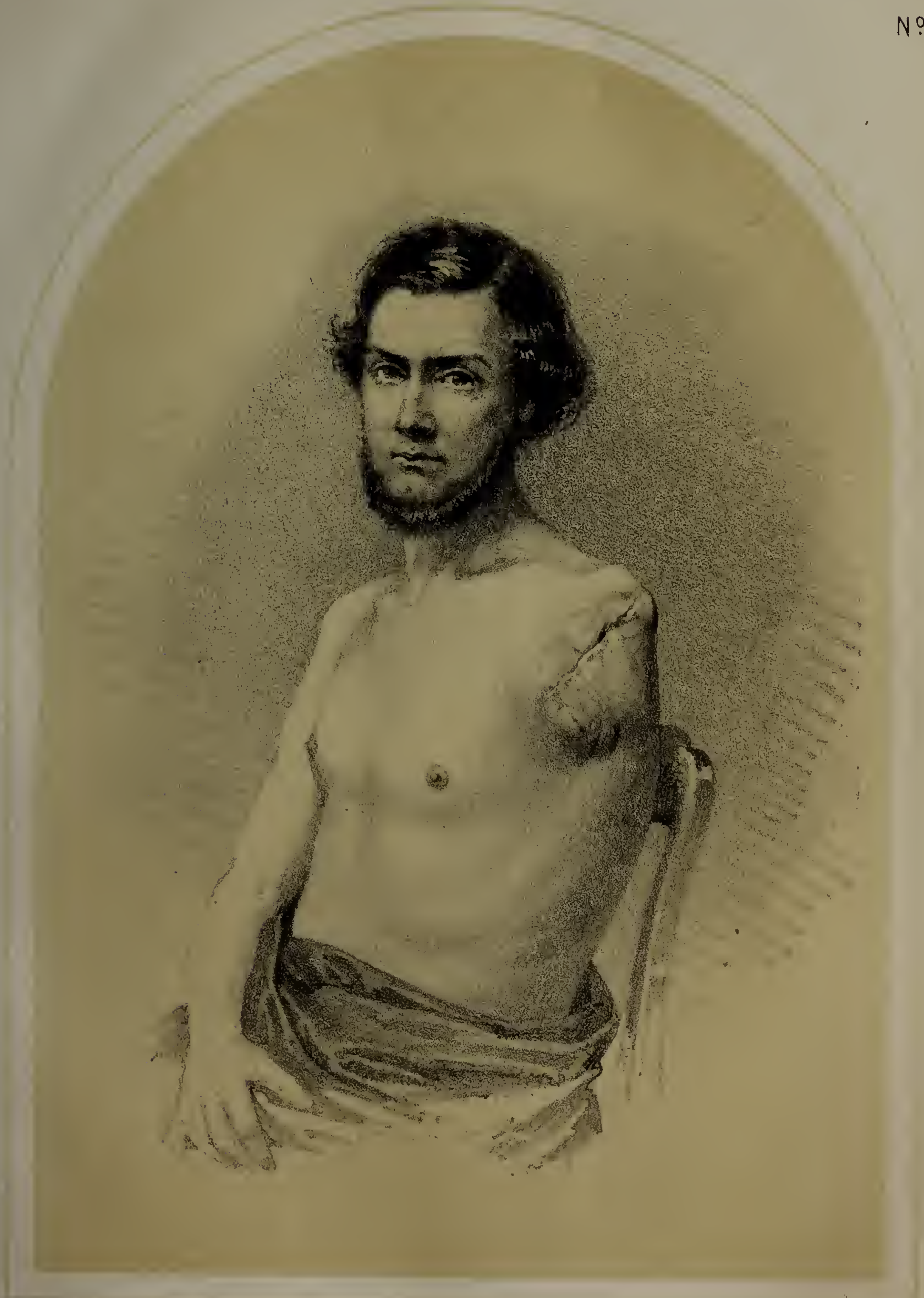
DRAWN FROM LIFE BY JAS. PLUNKET

LITH. OF SARONY & CO. N. Y

APPEARANCE OF THE TUMOR OF THE HUMERUS BEFORE THE OPERATION.

APPEARANCE OF THE PATIENT THREE MONTHS AFTER THE OPERATION.

No 2.



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LITH. OF SARONY & CO. N.Y.

ON THE SURFACE OF THE STUMP, THE LINE OF CICATRIZATION IS SEEN.

THE AMERICAN

MEDICAL MONTHLY.

SEPTEMBER, 1854.

PART I.—ESSAYS, MONOGRAPHS, AND CASES.

Amputation at the shoulder joint for the removal of a large Osteo-fibro-cancerous Tumor of the Humerus,—recovery of the patient. By J. M. Carnochan, M. D., Surgeon-in-chief to the State Hospital, Professor of Surgery in the New York Medical College, &c.

A case of fibro-cartilaginous tumor, involving a part of the humerus, and weighing eleven pounds, in which amputation at the shoulder joint was successfully performed by Sir Astley Cooper, is recorded in the Medico-chirurgical Transactions of London. Another similar case, in which the tumor removed weighed twelve pounds, is reported by Mr. Syme, of Edinburgh. In the following case, amputation at the shoulder joint was successfully performed for the removal of an osteo-fibrous tumor, involving the entire humerus, and weighing eighteen pounds and a half; being, I believe, the largest tumor of the humerus, thus treated, of which there is any mention.

Case. Francis Murphy, aged 30, a native of Ireland, married, stone-cutter by trade, of swarthy complexion, dark hair, and blue eyes, was admitted into the State Emigrants' Hospital, 18th March, 1854; had an enormous tumor involving the left humerus; stated that he was the youngest of twenty-one children, who were generally healthy, and that his mother and father were always in good health, the latter of whom, however, died at the age of 55, of some tumor about the jaw. About nine years ago, Murphy contracted syphilis, for which he was salivated.

In June, 1851, while on his voyage to the United States, he received a blow on the outer aspect of the arm, about its middle, with a marling spike. He paid little attention to this at the time; but in the course of a week a small tumor, as large as a pea, was observed to spring up at the seat of the injury. About six weeks after landing, he sought advice at one of the medical institutions of the city, and was ordered to use some stimulating linament. But notwithstanding the use of various external applications, amongst which was the iod. pot. conjoined also with its internal administration, the tumor continued to grow, and at the expiration of twelve months had attained the size of two fists placed together. It was then observed to be globular in shape, extending mostly towards the external aspect of the arm. The pain was excessively severe and continuous, so as in a great measure to prevent sleep, although narcotics were freely used. During the succeeding twelve months, the morbid mass grew more rapidly, the pain at times becoming intolerable, and causing privation of sleep. All this time, he was totally unable to attend to his vocation, and he wandered about from one institution to another, seeking vainly for relief.

In June, 1853, two years from the commencement of the malady, the tumor had reached the size of a large adult head, and apparently involved the two upper thirds of the humerus. At this time Murphy presented himself for my opinion, and an operation for the removal of the entire mass was recommended. Dreading to submit to so severe an ordeal, and influenced by the representation of some ignorant charlatan, he submitted to the application of some caustic material upon different parts of the tumor. These applications produced ulcerations upon the surface of the posterior aspect of the tumor, and by the discharge thus resulting additional annoyance and irritation were induced.

Becoming tired of treatment which effected no good result, and the tumor still continuing to increase, accompanied by uninterrupted pain and distress, Murphy again, in February, 1854, sought my advice, which he had now made up his mind to follow.

At this phase of the disease, the patient was in a truly deplorable condition. In consequence of the continued discharge from the ulcerated portions of the tumor, and of repeated and profuse hæmorrhage from some of the enlarged veins, the coats of which had been destroyed by the extension of the ulcerative process, he was emaciated to an extreme degree, and presented the general characteristics of constitutional cachexia. The tumor had also become formidably large, involving the whole extent of the humerus, measuring in its largest circumference twenty-nine inches, and weighing eighteen pounds and a half, as was ascertained after its removal.

The general appearance of the tumor was ovoid, extending, as it were, centrifugally from the humerus, as the centre, almost equally on its different aspects, encroaching above, on the humero-scapular articulation, and below, on the articulation of the elbow. There was no perceptible motion of the humerus upon the glenoid cavity, while below, at the humero-cubital articulation, there was partial motion. The surface of the tumor presented numerous veins enormously enlarged, ramifying in various directions, and imparting a bluish character to the color of the integuments. When grasped, the morbid mass felt solid, hard, and inelastic at some parts, while at others a sensation of elasticity was conveyed to the fingers. Generally, it was smooth and nodulated; and at two points, two ovoid elevations, as large as goose-eggs, projected from the general mass. Vide plate No. 1.

Operation. The patient, seeing before him the evidences of impending dissolution, now eagerly sought the alternative of the removal of his disease.

As it was not certain that disarticulation at the humero-scapular articulation would remove all the disease, I was prepared to remove, if necessary, such portions of the clavicle and scapula as might have been involved.

Another important point presented itself, in regard to the quantity of blood that was likely to be lost by operating after the usual manner of amputation at the shoulder joint. The tumor was enormously large; the vessels were much dilated; the axillary artery was imbedded in the dense and unyielding tissue of the tumor, and could not have been easily and promptly tied, or with certainty compressed at any stage of the incisions; and the patient was exceedingly feeble, and unable to bear the loss of blood. Unwilling to trust to compression, by an assistant, of the subclavian artery, where it passes over the first rib, I came to the conclusion to place a temporary ligature on the trunk of the subclavian, at the outer side of the scaleni. By this proceeding, the control of the hæmorrhage was rendered more certain.

On the 24th of March, the patient was brought into the operating theatre, and placed on the table. The assistants having taken their proper positions, and the instruments being arranged and placed so as to be within reach, chloroform was carefully administered. The veins of the neck became very much distended as soon as anæsthesia was induced, as is generally the case. This condition, together with the impossibility of throwing the shoulder downwards, on account of the size of the tumor, seemed to present serious obstacles, and to render it difficult to reach the subclavian; but by making a free incision immediately above the clavicle, parallel to its posterior border, commencing an inch outside the sternal end of this bone, and extending near to the insertion of the trapezius, and by taking the precaution to use the American aneurism needle, the artery, at the depth of four inches from the surface, was secured without much trouble. As soon as the ligature was placed, a small cylinder of rolled muslin, of the diameter of the finger, was placed over the artery, and the ligature tied over this in a double bow knot, so as to be easily loosened and removed. My friend, Dr. Power, was entrusted with the care of this species of temporary tourniquet.

The patient was now drawn close to the edge of the operating table, so as to give freedom in making the necessary incisions for the removal of the arm. I had selected Larrey's method of amputation; for, if it be not always the best in ordinary amputations at the shoulder joint, it is by far the most proper mode of proceeding when this operation is required in cases of large tumors of the humerus, encroaching upon the shoulder.

With Langenbeck's short amputating knife, I made an incision, beginning a little above the acromion process, and extending for about five inches downwards, so as to separate the *deltoid* into two equal portions, and to pass a short distance below the level of the neck of the humerus. The arm was now drawn from the trunk. Placing the edge of the knife upon the anterior margin of the axilla, nearly on a level with the insertion of the *pectoralis major and latissimus dorsi*, a semilunar incision, with convexity downwards, was rapidly made across the anterior semi-circumference of the tumor, in a direction to strike upon the vertical incision. A corresponding semilunar incision was made across the posterior semi-circumference of the tumor, by directing the knife from the posterior margin of the axilla, beginning at a point opposite the commencement of the previous incision, and terminating so as to join it on the vertical incision. While these two semilunar incisions, which nearly embraced the entire circumference of the tumor, were being made, and that with rapidity, the hæmorrhage from the enlarged veins was appalling, the blood flowing, *en nappe*, in a torrent upon the floor. No time was to be lost; the flaps resulting from the incisions were quickly dissected back, and so maintained by an assistant, so as to expose the joint. Another assistant forcibly drew the arm downwards and forwards; the knife was made to enter the articulation from above, and to pass inside and behind it; and the operation was finished by carrying the instrument onwards, and dividing, from within outwards, the remaining soft tissues on a level with the inferior ends of the anterior and posterior semilunar incisions. Owing to the temporary ligature around the subclavian, the arterial hæmorrhage was trifling; the axillary, the two circumflex, and a few smaller arteries were promptly secured, and the patient re-animated by the applications of stimuli to the nostrils and by frictions upon the surface. The ligature under the subclavian was then loosened, but not removed.

A large number of pupils and medical gentlemen were present at the operation. The amputation was performed in thirty seconds, and was commenced as soon as the ligature was placed around the subclavian artery. I had the efficient counsel of my colleagues, Drs. Henry G. Cox and Ford; and I was ably assisted by my friends, Drs. Power, Gilligan, Brundige, and Abrams, and by the resident assistant Surgical Staff of the Hospital, Drs. Winer, Gould, Strowbridge Smith, Hagan, and Robinson.

Progress of cure. The following abstract is taken from the record kept by Dr. Winer, the senior House Surgeon:

The wound having been dressed so as to favor union by first intention, the patient was removed carefully to his ward, and placed in bed. At the evening visit the pulse was 84, and the patient inclined to sleep. At 9 o'clock he slept, and continued to sleep, with slight intervals, through the night, his pulse and respirátion gradually increasing till 5 o'clock A. M., when the pulse was 128 and respiration 30, and short, slight subsultus. At 9 o'clock A. M. of the 25th, his tongue was dry in the centre, *Risus Sardonicus*, countenance anxious, and muscles of his nose expanding and retracting during respiration. Ordered beef tea and brandy. At 9 o'clock P. M., pulse 130, breathing easier. Ordered gtts. xx. M'Munn's Elixir of Opium, and brandy at intervals.

9, A. M., 26th. Pulse 120, respiration fair, tongue moist, and has slept well during the night. Stimulants decreased, and ordered chicken broth. At 6, P. M., the wounds were dressed for the first time since the operation. There is attempt at union by first intention throughout the stump. Ligature around the subclavian removed. An anodyne at night.

27th, 8, A. M. Has passed the night well, and every thing promising. Pulse 106, and respiration full, tongue clean and moist, urine redder than natural. At 5 o'clock, P. M., the wounds are dressed, all looking well. An anodyne at night.

28th, 9, A. M. Pulse 112, regular and full—had a good night's rest. There is a slight discharge of laudable pus. Bowels have moved during the night. At 6, P. M., wounds dressed, all healthy. An anodyne at night.

29th, 10, A. M. Pulse 106—has passed the night well. Countenance anxious and patient irritable. An anodyne at night.

30th, 9, A. M. Pulse 102—passed the night well, skin moist. Discharge from the stump is increased. Appetite good. At 1, P. M., pulse 100, inclined to sleep, perspires profusely. At 5, P. M., the patient being engaged in an animated conversation with a visitor (against orders), hæmorrhage occurred from the stump very profusely. The patient bled a minute and a half before the arrival of the House Surgeon, during which time sufficient blood had flowed to saturate the dressings and the bedding, and occasion fearful syncope. The wound was immediately opened, adhesions had taken place, and the artery, from which the hæmorrhage came, deeply seated. Pressure with the fingers controlled further hæmorrhage. Carb. ammo. and brandy were given, and the patient rallied with difficulty. Firm and constant pressure for three quarters of an hour completely arrested the hæmorrhage. The wound was left open about two hours, when it was closed and pressure by compress and bandage applied. At 9, P. M., pulse 140, respiration hurried, and tongue dry. Ordered beef tea and brandy. At 10, an anodyne.

31st, 6, A. M. Pulse 120—has passed the night tolerably, sleeping at intervals. At 8, A. M., wounds dressed; union by second intention commencing in the stump, pulse 110. Stimulants decreased, chicken broth ordered. He is visited by his wife, which increases his pulse and alarms him. An anodyne at night.

April 1st, 7 o'clock, A. M. Pulse 106; has not rested well during the night, tongue coated but moist, surface warm, passes urine freely of a light color, depositing, upon standing, urate of ammonia. At 6, P. M., the wounds were dressed, discharge of pus rather free. Pulse 104, complains of pain, referred to his left hand and to the back. His position is changed, and a clean sheet passed under him. At 10, he takes an anodyne.

2d, 6, A. M. Pulse 90, irregular, passed a good night, slight subsultus, a whiff on expiration. At 6, P. M., pulse 105, tongue slightly dry at tip, and the patient feels alarmed for his own safety. Wounds dressed, very great discharge of pus from the stump, mixed with blood, pain in the back severe and prostration increasing, slipping down in the bed, desponding. Ordered quinine and iron, brandy and egg, and anodyne at night.

3d, 6, A. M. Slept well during the night, slight subsultus, and whiff still continues during sleep, pulse 100. At 8, P. M., still complains of very great pain in his back, wounds were dressed, discharge of pus not so great as yesterday nor as healthy. Small sloughs detached from superior part of the wound. Granulation about the glenoid cavity commencing. Wound above clavicle healthy. Patient's condition much improved, the only untoward symptom being constant inclination to go to stool, which is, however, relieved by suppository of opium and an anodyne.

4th, 8, A. M. Pulse 100; the patient has slept well at intervals. Discharge from wound is less, and rather thin and light colored, urate of ammonia plentifully deposited in urine. At 6, P. M., pulse 106, bowels moved during the day, great pain in his right hip. Wound dressed and looks healthy, except around the glenoid cavity, slight inclination to slough. Balsam Peru freely applied over the dressing. An anodyne at night.

5th, 6, A. M. Pulse 94, general condition improved, bowels moved during the night. At 5, P. M., pulse 100, wound dressed. The glenoid cavity is partially exposed, and pus seems to collect around it. The discharge is greater than last night, the upper and lower part of the wound look healthy. An anodyne at night.

6th, 8, A. M. Pulse 100, condition favorable. 9, P. M., wounds are dressed, looking improved, two ligatures come away from the superior part of the stump. An anodyne at night.

7th, 9, A. M. Pulse 110, did not sleep well last night, perspires very freely, discharge of pus greater than yesterday, countenance anxious. At 6, P. M., the wounds are dressed, granulations commence about the glenoid cavity, discharge of pus still thin, the stump more painful than usual in dressing; an anodyne at night.

8th, 6, A. M. Pulse 86, rested well during the night. At 5, P. M., the stump is dressed, looking healthy, granulations being of a brighter color. Four ligatures came away.

9th, 8, A. M. Pulse 100, slept well, appetite voracious. At 6, P. M., wounds dressed and four ligatures come away; granulations around the glenoid cavity increase; balsam Peru still applied.

11th, 5, A. M. Pulse 88, slept soundly. At 5, P. M., wounds dressed, not looking so healthy; the parts around the glenoid cavity inclined to slough; an anodyne at night.

13th, 8, A. M. Pulse 98, irregular; tongue dry; twitching of the lips and picking at the bed-clothes, patient very irritable ; discharge from the wound very unhealthy; bowels moved by injection.

14th, 8, A. M. Pulse 104, slept well without anodyne. At 7, P. M., wounds dressed ; the granulations in the lower flap of the stump are large and light colored.

16th, 8, A. M. Pulse 88, had a good night's rest; bowels moved three times during the night, healthy. At 6, P. M., pulse 98, wounds dressed; granulations more healthy and discharge lessened.

18th, 8, A. M. Condition the same as yesterday. At 6, P. M., wounds dressed, appear healthy, but pus collects in the posterior flap, and that part is very painful.

19th, 8, A. M. Pulse 88, complains of a good deal of pain in the stump. At 6, P. M., wounds dressed, and the general condition very good. A counter opening is made in the posterior flap, from which an ounc eand a half of healthy pus is discharged; ligature of the axillary artery came away.

23d, 8, A. M. Pulse 90, complains of pain in the stump, appetite good, tongue clean. He was able to sit up in bed three hours this day. At 6, P. M., wounds were dressed—the incision made to secure the subclavian artery nearly healed—granulations around the glenoid cavity doing well;

the lower part of the anterior flap the skin is red, tumid, and painful. An artificial opening is made over it, and two ounces of dark-colored pus discharged.

26th, 8, A. M. The patient is up, and walking about the ward.

27th, 8, A. M. Pulse 94; eats, drinks, and sleeps well. At 6, P. M., the wound dressed, the glenoid cavity granulating well; only a very slight discharge from the inferior opening.

30th, 8, A. M. Pulse 94, regular and strong; no pain in the stump, glenoid cavity entirely covered, appetite good, bowels regular, tongue clean, and sleeps well.

May 3d, 8, A. M. Pulse 90, regular and full, appetite voracious; very slight discharge of pus from the posterior counter opening.

14th. Discharged, cured, from the Hospital, the stump having become firm and entirely cicatrized.

Pathological description. The skin, subcutaneous adipo-cellular layers, and a superficial stratum of muscular fibres superiorly, are normal.

A minute inspection of the tumor, and the appearance of its structure as seen by the microscope, induce me to believe that the morbid mass is one of malignant or cancerous character. In this opinion I am corroborated by my former colleague, Dr. Bowen, whose pathological researches have been very extensive. The tumor, when laid open by a vertical section, presented a striated, dull whitish appearance on each side of the centre of the mass, which was itself occupied by the remains of the altered and disorganized tissue of the shaft and extremities of the humerus. The osseous tissue here seems to be disintegrated and expanded, by deposit and growth of a dense, striated, fibro-cancerous structure, which bears a very large proportion to the expanded and altered bone: on passing the hand over each surface of the section, bony material is felt to be interspersed in acicular and foliated lamellæ, through the entire mass of the tumor, as far as its periphery.

The head and upper part of the shaft of the humerus is atrophied and expanded to near the surface of the tumor. The spongy structure of this part of the bone is destroyed.

The spongy structure of the lower fifth part is in a state of commencing eburnation, dense but readily compressible.

The soft parts surrounding the bone have a striated appearance, the striæ assuming a curvilinear direction. These are more clearly defined as the circumference is approached.

The centre of the tumor is occupied by bony detritus, and by a substance differing from the tissues which it has replaced; and this is supposed to be a malignant deposit,—1st. Because there is a large increase of substance; 2d. This great increase took place rapidly after a period of apparently languid action—chronic inflammation; 3d. The new matter has but slight resemblance to any of the normal tissues which it has infiltrated or replaced; 4th. There has been a destructive process at work, and the destruction gives no evidence of having been effected by common inflammatory action.

It may be contended that the tumor was not malignant, from the presence of white fibre and the inflammatory condensation of the lower end of the bone. But, in point of fact, there is no incompatibility.

In the progress of cancer two distinct processes are in operation: 1st. The deposit and evolution of cancer granules and cells; and 2d. Inflammatory action excited by their presence.

Cancer cells are necessarily perishable, but the organizable product of simple inflammation may be converted into tissues analogous to those into which it is poured, or in a lower organization, as, for instance, white fibre.

New fusiform developmental cells are said to abound in malignant growths, and are converted into fibres to form the stroma.

This is denied by some, as by Vogel; but he admits that new fibres and vessels are present, and thinks they are dependent upon the influence of the preëxisting fibres, just as is the case in the growth of pure fibrous tumors.

Mr. Paget observes, that exceptions to the general rule of the wasting of the infiltrated tissues are often observed in the fibrous tissues and in bone.

The examination of the morbid preparation also shows that the formative processes have occupied the circumference of the tumor, while the destructive action has been confined to the centre, where evidently the disease commenced.

NEW YORK, *July* 1*st*, No. 2 Waverley Place.

Sulphate of Magnesia in Nervous Fever. By W. S. BOWEN.

I have heard, on three several occasions, of patients dying insane after attacks of nervous fever, so called.

This fever, as far as my reading extends, except in Doctor Graves' Clinical Lectures, is described as "Mild Typhus," "Mild Synochus," &c.; thus imposing it as a law upon these fevers to be nervous if mild, and leaving us to infer, if we please, that the milder the fever is the milder will be the delirium, the danger of insanity being proportionally great.

This nominal association with an asthenic disorder, combined with the apparently asthenic condition of the patient in the fever in question, led, I presume, to the treatment adopted in the cases I incidentally heard of, which was, mainly, anodyne, stimulant, and tonic.

The fever that forms the subject of this paper is not typhus fever, or any modification of it; and anodynes, stimulants, and tonics are directly contra-indicated.

It is the "Nervous Fever" of Dr. Graves, only he dislocates it from its pathological centre, the inflammation of the hemispherical ganglion.

In the summer of 1838, I was summoned to a gentleman, twenty-six years of age, of spare habit and nervous temperament. (The case was not under my care as his physician. Dr. Dilworth had directed that I should be sent for, if required, during his absence for a day or two.)

When I saw the patient, he was laboring under extreme agitation. The skin was hot, and the pulse small and very frequent; he was delirious, but the delirium was peculiar; it resembled mental agitation, rather than aberration.

This occurred in paroxysms, which were speedily allayed by sulphate of magnesia, Dr. Dilworth's prescription.

There was some prostration, but this was not a marked symptom.

The patient recovered rapidly under this simple treatment.

July 31st, 1843, I saw a lady, æt. 17, plethoric, of sanguine and bilious temperament, muscular system well developed.

Since the preceding winter, she had suffered from scanty menstruation, which was attended with more or less, but constant, headache. For the last few days it had increased very much, and was most severe on the right side, preventing sleep.

She was delirious, with flushed face, eyes injected, pulse hard and rapid, skin hot, abdomen tender on pressure, bowels constipated.

Ice was applied to the head, mercurials ordered, and a febrifuge administered at short intervals, without producing any abatement of the symptoms.

Leeches were then applied to the temples, which afforded some relief; but she still remained sleepless, had spectral illusions, subsultus, and was greatly prostrated.

The right ear suppurated, and stupor, with muttering delirium, followed. Her sight failed.

Stimulants and anodynes were now given. They failed totally.

Reflecting on the case, I was struck with the similarity that existed, as far as the earlier delirium was concerned, between this and the first case. A wine-glass of a solution of Epsom salts settled the question. She became calmer, and during the night slept. A table-spoonful was given every few hours, or as often as she manifested any excitement. She recovered her sight.

Under this treatment she steadily improved. On the 6th of August, profuse perspiration put a period to the disease. On the 12th, she was gaining strength.

A young lady of fifteen, exceedingly frail and delicate, of nervous and sanguine temperament, was seized, in the early part of August, 1852, with vomiting.

For a week she had complained of headache and pain in the abdomen, which was tender on pressure. She was suffering from neuralgia.

The pulse was small and frequent, skin hot, tongue white, bowels constipated. She was restless and sleepless, had paroxysms of nervous excitement, which, without rising to positive delirium, were attended with increased febrile reaction, pain in the head and confusion of intellect.

Blue mass was ordered, a table-spoonful of spts. Mindereri directed to be given every two hours, and hyoscyamus at bed time, to be repeated, if necessary, every three hours.

In the morning the symptoms were aggravated, the fever, paroxysmal excitement, &c., being much greater, while alarming prostration was present and increasing.

I ordered brandy to be given, which still more aggravated the case. Wine was substituted with no better success, when again it occurred to me that this case also resembled the first in its general outline.

Sulphate of magnesia was given, with prompt relief. In a few days she recovered.

Dr. Graves,* referring to a case of nervous fever, remarks, that "the disease was a pure fever, of a nervous type, unaccompanied by any symptoms indicating decided local inflammation. The symptoms were heat of skin, quick, weak, compressible pulse, thirst, watchfulness, and low, muttering delirium, unattended by any appreciable sign of visceral disease, or any symptoms denoting a putrescent state of the fluids.

"It was not a congestive, or putrid, or gastro-enteric, or petechial fever, neither could it be called a cerebral fever.

"It was nervous fever, modified by the patient's long-continued intemperance.

"His treatment consisted in the employment of medicines calculated to soothe the nervous system. Sulphate of quinine and opium (found successful in similar cases) offered but a feeble hope of arresting the malady. It failed, and the man died, worn out by long-continued suffering and exhaustion.

"Eighteen hours after death, we made a most careful examination of all the viscera of the three great cavities. The man had all his viscera in an apparently sound and normal condition, and died of pure nervous fever."

A second case described by Dr. Graves, had "thirst, hot skin, pulse from 110 to 120, occasional delirium and watchfulness; and these symptoms went on, week after week and month after month, unaccompanied, during the whole course of the disease, by any phenomena indicating the existence of local inflammation.

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* Clinical Lectures, Lec. XIII.

"His treatment was purely expectant and temporizing.

"At last, after the fever had continued for very nearly three months, the man complaining all the time of more or less thirst, hot skin, watchfulness, and headache, with occasional delirium, the disease terminated in a well-marked crisis, accompanied by sweating."

A third case—"Never had a remission during his illness, was in very urgent danger, and got a perfect crisis, with profuse perspiration, on the forty-second day."

A fourth case*—"Had entered the hospital with a violent and general bronchitis, accompanied with high inflammatory fever."

Owing to the crowded state of the hospital, the patient was put into a "fever ward"—was relieved, and while convalescing took his discharge (January 15th), in order to vote at an election in Dublin. He was mercurialized at the time.

Ten days after, he was re-admitted, "complaining of rigors and other symptoms indicative of commencing fever."

The next day, Dr. Graves saw him, when he presented "great prostration of strength, hot skin, dry tongue, pulse 108, nervous agitation, restlessness, together with subsultus tendinum."

He died, exhausted, on the tenth day.

The case is summed up as follows: "Though his muscular system was irregularly excited, and its nervous influence deranged, he had not even a tendency to delirium, and he slept soundly; neither had he the least headache. I called your attention to this circumstance at the bed-side of the patient, and endeavored to impress on your minds how forcibly this case opposes the doctrines of those who attribute the nervous disturbance of every part of the system, and among the rest subsultus, to congestion or inflammation of the brain.

"When the subsultus had attained a degree of violence such as we seldom witness, we remarked, nevertheless, that he slept well, and that he was free from headache, heat of scalp, and throbbing of the temporal arteries.

"Agitated with subsultus, he was in a constant state of restlessness when awake; his skin was hot, his tongue dry, and his weakness was sudden and excessive.

"In short, he was laboring under intense nervous fever." (?)

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* Lecture XVI.

Dr. Graves attributes the nervous type of this case to his exposure to cold while salivated, and to the excitement consequent upon the election.

As already stated, I conceive that the pathological condition upon which the phenomena of nervous fever depend is hyperæmia of the hemispherical ganglion.

This condition may or may not be attended by the results of inflammatory action.

Dr. Graves lays stress upon the fact that, after a most careful examination, he was unable to find the slightest trace of congestion. I take it, this remark will apply to very many cases of congestion, and even of inflammation, that have terminated fatally, in which the products of inflammatory action have not been thrown out.

The absence of vascularity, especially in the brain, should not disturb our faith in capillary hyperæmia, or induce us to place undue reliance upon high nervous action independent of the nervous centres; for such negative results have very often afforded a useful lesson to the pathologist, as Dr. Graves suggests they may; but they have been, by many, regarded in a somewhat different light from that which seems to prevail in the Meath Hospital.

The symptoms of inflammation of the hemispherical ganglion depend upon two conditions of the organ.

First—Hyperæmia.

Second—Stasis and exudation.

The first condition is characterized by exaltation of functional activity.

The second by its depression.

Many writers refer the first group of symptoms to inflammation of the membranes of the brain; but Mr. Solly has laid this question to rest: "It is impossible to separate inflammation of the membranes from that of the hemispherical ganglion, or cortical substance, of the brain."*

Nervous fever proper, I am inclined to think, is mainly to be attributed to excessive heat, as the exciting cause. It is a very rare disorder in the North, if we except those cases in which the patient is prostrated, without reaction, by long exposure to the direct rays of the sun.

May we not hope for a clearer statement of the fever, from Southern writers?

As to the remedy suggested in this paper, I would further remark that in hysterical convulsions—delirium ebriosorum of Solly—and those forms of sleeplessness that depend upon mental excitement, I am unacquainted with any remedy exercising so controlling an influence as sulphate of magnesia.

105 NINTH STREET, *July* 31*st*, 1854.

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* "The Human Brain," &c., 2d Edition.

Clinical Lectures on some of the principal Diseases of the Eye. Delivered at the New York Medical College, June and July, 1854, by ISIDOR GLÜCK, M. D., Cor. Fellow Med. Soc. of London.

[Continued from p. 22.]

AMAUROSIS.

Anatomy and Physiology of the Eye, accommodation of Sight, etc.

GENTLEMEN :—If you noticed the manner in which this patient entered the room, you cannot have failed to observe his exertion of seeking for light, although he was lead by his daughter. The widely opened eyelids, the almost angularly high drawn up eyebrows, further the horizontal folds (wrinkles) on the forehead, and the stretched neck holding the head upwards towards the window, are so many evidences of it. His walk, together with the rolling of the eyes, and, more yet, the deviation of the adductor muscles, may give you in some measure a hint for forming, if not the diagnosis, at least an idea of what nature the affection may be. Moreover, a glance at his eyeballs will inform you of an apparently sound state, if you except a slight discoloration in the background of the eyes, which is partly attributable to the natural change which takes place in advanced age,* and is frequently apparent even in middle-aged persons, like this patient, who is forty-nine years old.

But if you inquire into his condition of vision, you learn that he can discern light from darkness, but can neither see you nor perceive an object, excepting its shadow. His own story, as you hear, runs thus: "About two years ago, when driving, one morning, his cart, he observed all objects as if surrounded by clouds, misty and hazy. From that time his eyes grew dimmer and dimmer, until he arrived to this condition in which, since eight months, he sees but the shadow of objects, better in the evening, especially by moonlight, than in the day. He observed floating dots of different shape and form, passing along in different directions. Once in a while he had a shooting pain in his brows and head. He is regular in eating, but having worked hard he found it beneficial to take stimulants."

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* With advanced age the transparent fluids of the eye loose in pellucidity and quantity. They become thicker, the lens becomes planer, more dense, yellowish, opaque, harder or softer, the vitreous humor denser and yellowish, the choroidea paler, and inclines even to ossification, the retina becomes thinner.—[*Lehrbuch der path. Anat. Bock.*]

If you examine the eye as to its sensibility to light, you will find that the irides do not respond to the various degrees of excitement by light, but remain immovable.

The movements of the iris are involuntary, and depend upon the excitement communicated to it by immediate irritation of the oculo-motor, or reflected from the cerebral nerves on the brain, the medulla oblongata, and therefrom on the oculo-motorius, or from an excitement originating in the brain, medulla oblongata, or in that part of the spinal chord which is situated between the first and the third vertebra. The proofs of it are apparent from the fact that the pupil contracts after irritation of the conjunctiva, of the iris itself, and of other parts of the eye. But the light can only produce a contraction of the pupil when the retina is sensitive to its impression, which communicates itself through the means of the optic nerve on to the brain, which latter imparts the impression through the corpora quadrigemina (the central organ of the reflex action of the iris), on the nervus oculo-motorius. Hence the dilatation of the pupil and immobility in paralysis of the retina, even with undisturbed activity of the third pair.

Experiments made on animals prove that the sensation of light is imparted from the retina to the brain, and is reflected from these on the oculo-motory nerves. Mayo, Magendie, and lately Budge, cut through the optic nerve, and having irritated immediately afterwards the end not connected with the brain, found that the diameter of the pupil remained unchanged; but the irritation of the central end of the optic nerve was followed by a contraction of the pupil. The transcission of the oculo-motorius nerves by integrity of the irritated optic nerve, had no effect upon the pupil. Hence it follows that the nervous flow of the optic nerve is directed towards the centre and not the periphery, and that the optic nerve does not cause *directly* the movements of the iris, and that the nervus oculo-motorius is officiating and producing the movements of the iris, and causing its contraction. Amaurosis of one eye proves the same also: the reflected movements are communicated from the sound to the affected eye. The light does not exert an influence by being thrown on the iris. If no light enters the pupil the same does not change, but contracts or dilates if thrown on the sensitive retina. The movements of the iris are in connection and in some measure dependent upon the power of accommodation. The closer we look at an object the more the pupil contracts, and dilates, on the contrary, the further the observed object is situated.

In the normal condition of the eye, its background appears black, because the quantity of reflected light is too small* to produce a sensation in the retina of the observer's eye. Again, the returning rays having the direction of those which *fall* in, prevent altogether the return of rays from the observed retina into the observer's eye, because they start from the same spot which is occupied by our own (observer's) pupillary image; as no rays return from the pupil which is directed towards a black pupil, it is natural and necessary that the pupil should appear black. Only by the reflection of our cornea, by irregular refraction and diffusion in the observed eye, by defraction on the pupillary margin, by pellucidity of the sclerotica, by the diffused light which falls on other parts from the illumined part of the retina, but chiefly by imperfect accommodation, in which no clear image is formed of our pupil,—some rays of light may return from the background of the eye into our pupil, usually, however, too few to illuminate the pupil; and hence the darkness. A discoloration of the pupil will inform you of some change either in the transparent media, or farther back on the retina, optic nerve, etc.

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* Stèlwag Von Carion proved it by mathematical calculations based on optical principles.—*Theorie der Augenspiegel, Vienna,* 1854.

Although it is evident that these objective and subjective symptoms sufficiently characterize a condition which is called amaurosis, I should not venture to diagnosticate the absence of a cataract without a previous examination by the eye speculum. If you examine by the speculum his left eye, Gentlemen, you see the vessels branching in all directions from the centre of the optic nerve. Those running vertically up and down are larger, whereas the horizontal ones are smaller in size; but the color, as you see, is more a brown red equally diffused, and, more cloudy, and not as in the healthy eye. In the right eye you will have more difficulty in tracing the vessels, although they are in some measure apparent. If you use the positive lens, the branches will appear magnified; with the concave lens, you will observe the cornea and iris diminished, but the vessels enlarged. Of course the focal distance varies with the difference of refractive power of your own eyes. Some of you who are near-sighted will do well to look at it through your own glasses. The transparency of both lenses is apparent, of the vitreous humor in the left eye equally so; but the intransparency of the vitreous humor of the right eye, gives ground for supposition of its altered state. However, there is no complication with a cataract, which we should have observed by this means.

It may be well to recall to your mind before entering upon the nature of this eye disease, affecting more or less, directly or indirectly, the retina, the anatomical construction, and physiological importance of this membrane and its contiguous parts. Neither its anatomy nor its physiology is clearly made out, but enough is known of it to give room for speculations probably near the truth, which some day, with the further developement of our auxiliary sciences and the improvement of means for more accurate researches, may have to give way to other suppositions, and thus prove untenable; the conflicting opinions, however, agree in and admit the *chief* features of its anatomical structure and physiological function. The retina is a nervous sheet, commencing at the entrance of the optic nerve, with which it is continuous, and is expanded within the globe, between the choroid coat and vitreous humor, and, becoming gradually thinner forwards, terminates abruptly at the ora serrata in an undulated margin which is intimately connected on one side with the choroidea, on the other with the hyaloid membrane. The retina is a delicate membrane, almost perfectly clear and transparent* during life and when recent, but whitish and opaque afterward. According to Bowman, to whose indefatigable exertions in anatomico-microscopical researches we are indebted for many correct views on the subject, the retina consists of elements common to the retina with other portions of the nervous system, which are placed *internally* towards the hyaloid surface of the retina; and elements peculiar to the retina, and placed *externally*. The former are:

I. Gray fibres, a continuation of the nerve tubules of the optic nerve from the entrance of which they radiate towards the anterior border of the retina. In the space occupied by the evolution of the gray fibres from the optic nerve, *i. e.* for the area of the inner orifice of the foramen opticum, the other strata constituting the retina do not exist, consequently this spot is insusceptible of stimulation by light, *i. e.* blind. Nerve tubules, such as form the optic nerve, do not exist as a part of the retina; where they enter within the sclerotica they are to be regarded as still the optic nerve in its course to the retina.

II. Gray nervous matter.
III. Caudate nucleated globules.
IV. Agglomerated granules.

The elements peculiar to the retina are situated externally, and together form the wall known as Jacob's membrane; these are,

V. Rods arranged vertically in a single series, and,
VI. Bulbous particles interspersed regularly among the former.

According to Kölliker's recent investigations in all parts of the retina, the following layers may be distinguished from without to within:

I. The *Baccillar Layer*, composed of innumerable rod-like and conical corpuscles, regularly disposed, and reflecting the light strongly. These two elements, the "rods" and "cones," constitute a single layer, which becomes thinner anteriorly. The "rods" are cylindrical, elongated corpuscles in which a larger external end—the proper rod—is to be distinguished from a more slender internal portion—the prolongation or "filament," which is a very delicate process of uniform width throughout, prolonged immediately from the point of the "rod," and extends through the inner half of the Baccillar layer. The "cones" are "rods" which, instead of the filaments, are furnished at their inner extremity with a conical or pyriform body. Each of these "cones" consists of an external thicker and longer, finely-granular extremity, and of a shorter inner portion, in which an elevated, more opaque and brilliant body is enclosed. The "rods" and "cones" are arranged vertically upon the retina like palisades in close apposition, one of their ends being directed towards the choroid, the other towards the granular layer. Close to the macula lutea the "cones" form an almost continuous stratum, so that the "rods" are placed only in single series between them; but more anteriorly they are wider apart.

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* According to Coccius, not perfectly so.

2. The granular layer, which is composed of opaque granular corpuscles, reflecting the light tolerably strongly; in the greater part of the retina they are disposed in two layers, an outer, thicker, and an inner, thinner.

3. The layer of cineritious cerebral substance, composed of a finely granular matrix.

4. *The Expansion of the Optic Nerve.*—Kölliker has not yet been able to demonstrate axis-fibres and sheaths in the fibres of the retina, although he would not from that circumstance at present conclude that they do not exist. As respects the course of the nerve fibres in the retina this much is certain, that they radiate on all sides from the colliculus nervi optici, and constitute a continuous, membranous expansion, which extends as far as the ora serrata retinæ, and presents any considerable interruption only in the situation of the macula lutea. In this true nervous membrane the fibres are associated into larger and smaller, compressed bundles, which either mutually anastomose at very acute angles, or run for considerable distances parallel with each other. They exist not only in front but in every part of the retina, because the layer of nerve fibres becomes visibly thicker from before backwards.

5. The limitary membrane, a delicate membrane intimately connected with the rest of the retina. This membrane, which Valentin considers to be an epithelium of the retina, and Hannover an epithelium of the hyaloidea, proceeds over the ora serrata, covering the ciliary processes and the posterior surface of the iris, to the pupillary margin, where it terminates.

The condition of the retinal elements at the "yellow spot" is in many respects peculiar. Any continuous layer of optic fibres is there wholly wanting, and the stratum of nerve cells, which are in close mutual apposition, lies immediately upon the membrana limitans. Between these cells run nerve fibres, from the sides and the internal end of the spot into it, and terminate in a way that cannot be accurately determined. In the centre of the macula lutea there is *a thin, uncolored spot in which* *the granular layer is wanting*, through which the pigment of the choroid is visible, the so-termed foramen centrale. The plica centralis nerve exists during life; but this is not the case, probably, with the yellow color, which depends upon diffused pigment prevading all the parts of the retina except the "rods." The latter in this situation assume the form of cones exclusively, in as much as the proper "rods" are wholly wanting in the "yellow spot" and its immediate neighborhood. Instead of them, the cones form a perfectly continuous layer, and are more slender than elsewhere.

Children are generally born *without* a macula lutea. The yellowish color forms itself, according to Ammon, fourteen to sixteen months after birth, under the influence of light; and does not form itself if light is shut out, by a leucoma for instance; and turns pale again in advanced age. In dead subjects the macula lutea is found in the plica centralis retinæ, which is a double fold formed after death; by means of the eye-speculum you would recognize it if it existed during life; I myself never could see it during any of the numerous examinations I made with the eye-specula.

Respecting the mutual connection of the nervous retinal layers, Kölliker has ascertained that the fibres proceeding from the "rods" and "cones" inwards, and from the granules on both sides, are connected and simply constitute parts of a fibrous system of the retina. This system, the greater number of whose elements are vertical, penetrates the entire thickness of the tunic, and might be termed the *radiating fibre-system*, in contradistinction to the horizontal, referable to the expansion of the optic nerve. Proceeding from the Baccillar layer, it is obvious that the fine filaments arising from the "rods" and "cones" are directly continuous with the similar processes given off from the external side of the "granules" in such a way that the filaments of the "rods" are connected with the granules of the outer granular layer, and those of the "cones" with the "granules" of the inner layer; in fact, each "cone" or "rod" is in connection with a granule, the latter also perhaps with several. The radiating fibres either actually terminate in the filaments observed by Kölliker on the surface of the expansion of the optic nerve, or they are continuous with the true fibres of that nerve, or at any rate in connection with them. In a physiological point of view, the latter supposition would in any case be the most plausible; and, in support of it, it may be stated that in the true fibrous bundles of the retina, together with the varicose nerves tubules, there are fibres of another sort, which agree in all respects with the radiating fibres. It may be that these fibres are the direct continuations of the horizontal terminal processes of the radiating fibres, which subsequently, in their further progress towards the optic nerve, acquire more and more of the character of nerve tubules, and follow a more direct course.

Kölliker looks upon the "rods" and cones, which may also be said to correspond in all chemical characters with the nerve fibres of the retina, and the whole of the radiating fibre system of the *retina*, as *true nervous* elements; and ventures at the same time to broach the bold supposition, as he expresses himself, founded upon a less established basis, which has been already thrown out, that the "rods" and "cones" are the *true* "*percipients*" of light, and that they communicate their condition to the fibres of the optic nerve, by means of the direct or indirect connection of their fibrous processes with the former, through which again the impressions are conveyed to the sensorium. That the optic fibres in the nervous expansion of the retina do not perceive light, appears to him be to proved by the circumstance:

1. That the point of the retina where those fibres alone and no other elements of the retina are found, viz. at the entrance of the optic nerve, is not sensitive to light; 2. That the optic fibres are *superimposed upon each other in such numbers*, in almost every part of the retina, and above all in the neighborhood of the macula lutea, that it is impossible that they should perceive light, inasmuch as each luminous impression, owing to the transparency of the fibres, must in any case always affect many of them, and consequently would of necessity give rise to confused sensations, and; 3. Because the part of the retina in which there is no continuous layer of nerve fibres on the inner surface, that is to say, the "yellow spot" is the most sensitive to luminous impressions. Under this notion the import of the "rods" and their remarkable arrangement would be intelligible, and the almost inexplicable correspondence in the size of the images of the smallest distinguishable interspaces between two objects with the diameter of the "rods" and "cones," be placed in its true light.

The vessels of the retina are the arteria and vena centralis retinæ, which enter in the axis of the optic nerve, the interior of the eye, forming in all directions arborescent ramifications. The branches, however, running upwards and downwards, are thicker than those running horizontally, as I have shown you repeatedly. In the circumference of the macula lutea, the branches form a coronary arch; but the macula lutea seems to be free of the vessels, at least by examining it with the eye-speculum. Kölliker states, that there are numerous capillaries in the "yellow spots." On the ora serrata retinæ is situated a circular vein (Gerlach), in which the capillaries situated on the anterior part of the retina inosculate. This vein presents this peculiarity, that only its posterior wall is connected with other vessels, whereas its anterior wall, turned to the zonula Zinii, is perfectly free of it.

This peculiar, independent arrangement of the vessels explains the independence of many inflammations of it, and the abundance of vessels the frequency of congestions, exudations, and extravasations, upon which, as traceable by the eye-speculum, amblyopia, amaurosis, and other defects of sight depend. The choroid coat consists of three different layers;[*] the outer is made up chiefly of vessels connected by a peculiar kind of connecting tissue (stroma), in which numerous stellular pigment cells are imbedded. A capillary net expanded in a structureless membrane, forms the middle layer, while the innermost (membrana pigmenti), consists of polyhedric pigment cells, in albinos and white rabbits substituted by tesselated epithelial cells. The formation of the pigment begins after birth, and is confined to the stroma choroideæ, therefore all children are born with blue eyes, whereas it extends in brown eyes, on to the ciliary muscle and the stroma of the iris. The different coloration of the iris depends upon the quantity and the distribution of the deposited pigment.

On the outer surface of the choroid, between the same and the sclerotic coat, the ciliary muscle forms a grayish semi-transparent band, about one-eighth of an inch broad. It is thickest in front at its anterior edge, and becomes gradually thinner backwards, terminating in a line with the ora serrata, and corresponds, therefore, on its inner surface, to that striated and plicated part of the choroid in front of the retina, where the choroid takes hold of the vitreous body. The function of this muscle is to adjust the eye to distinct vision at different distances. The manner in which this is effected is, as yet, a disputed point. By contracting it is supposed to draw the lens forwards, to adjust the eye for near objects; while by relaxing it causes the lens to recede, to which movements the elasticity of the parts probably much contribute, and the eye is thus again adjusted as originally, for remote vision.

By many it is called tensor choroidea, as its effect is supposed to be the extension of the choroidea with the retina around the vitreous body, diminishing a closed surface, which is formed by the muscle itself, the cornea and the choroid coat; it lifts forward, at the same time, the zonula Zinnii, which is connected with the ciliary processes, and diminishes their tension in that region which lies between the lens and the ciliary processes.

In front of the ora serrata, the choroid coat exhibits on its internal surface, about two lines and a half from the cornea, a number of longitudinal folds,—the ciliary processes, which are arranged in a radiated manner, and reach the circumference of the lens.

The circular space left by the anterior terminations of the choroid coat, is filled up by the iris (regenbogenhaut), which consists of finely spread muscular tissue, covered in front by an epithelium, and connecting numerous vessels, nerves, and pigment. It has a peculiar arrangement of "parallel, larger and smaller," lines and fibres, proceeding from the circumference to the centre (dilator pupillæ), where they meet orbicular fibres (sphincter pupilæ).

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[*] Gerlach.

The opening in the middle of this membrane is called the pupil. The function of the iris is to regulate the admission of the quantity of light, and to exclude the dispersed rays and those formed by the spherical aberration of the lens.

The cornea consists of five layers, the external, 1, forms the conjunctival epithelium, which is followed by, 2, an exterior elastic lamina, 3, the cornea proper, 4, a posterior elastic lamina, and 5, by the posterior epithelium, or membrana descemetii. The cornea and the membrana humoris aquæ, or descemetii, both of which are transparent, form a convex-concave, concentrating meniscus; the cornea is fixed into the sclerotica, which consists of white fibres, intimately connected with each other.

The refractive media of the eye form a system of lenses, constructed in such a manner as to form on the retina, under favorable circumstances, a defined achromatic image. The highly refractive lens included between two less refractive fluids (aqueous and vitreous humor), form, together with the cornea, the dioptric apparatus of the eyeball.

The Physiology of Sight.

Vision is effected in the normal eye thus: The rays of light passing from a luminous body through the dioptric apparatus of the eye, in a distance commensurate to its refractive power, are refracted in such way as to converge in the interior of the eye, and to meet in a focus on the retina, where it (the luminous body) is depicted upside down.* The image thus formed, if received by a sensitive spot (*macula lutea*), containing cones and rods, the perception of it is transmitted through the fibrous processes to the optic nerve, which conveys it then to the sensorium. The inversion of the image depends on the decussation the rays of light undergo, passing the highly refractive crystalline lens. The unity of vision of two images depicted on the retina, depends upon the decussation of the middle fibres of the optic nerves in the chiasma nervorum opticorum, and a probable simultaneous origin of both optic nerves in the brain. Single vision takes place only if *identical* parts of both retinas are affected by rays of light; while at once double vision occurs if different parts of the retina are affected, as you observe if you alter the optical directions by pressing one eye and looking by both. Identical are the centres of both retinas, as well as the parts equally distant from the centre of one eye outwards, and of the other inwards, or which are situated equally distant above or below the centre of the eye. The convergence of both optical axes in a point of an object which corresponds to the distance of the accommodative power, is a necessary condition to the unity of vision. It may be assumed, without committing a palpable error, that the eye consists of three refractive media, which are separated by nearly spherical surfaces, which have their centres of curvation in the axis of vision. The first medium should be the *cornea* with the *aqueous humor;* the second, the *lens;* the third, the *vitreous body.* According to known optical laws, the rays of light will be refracted *to* the perpendicular in the first medium; this refraction will be the strongest in the eye because the difference of the density of the atmospheric air and the cornea is greater than the difference of the latter and the subsequent media, and of those amongst each other.* In the lens the rays are again refracted to the perpendicular in consequence of the great refractive power of the lens in relation to that of the cornea, whilst the rays diverge again in the less dense aqueous humor. But not all rays falling on the cornea will be transmitted; only those falling within an angle of about 48 degrees. The more oblique rays are reflected, and cause the sparkling appearance of the living eye, which necessarily must be introduced into portraits in order to give them a character of life; some of the reflected rays produce the image behind the cornea. The rays reflected by the cornea strike upon the iris, which shuts out the peripheral ones, which causes the brilliancy of the iris, and admits the central ones. The rays coming from the luminous body are refracted in such a way as to form a cone, the base of which is on the cornea and corresponds to a second cone, the apex of which is on the retina, only its central ray (direction's ray)—which corresponds to the optic axis—passes in an unaltered shape; whereas the others are refracted. The perception which is most distinct in consequence of the situation of the retinal image nearest to the axis of the eye, is called *direct;* whereas that which in consequence of the greater distance of the image from the central point is less distinct, is called *indirect.*

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* You see in this eye, of which I remove the muscles and fat, the image of the flame I hold before the cornea, inverted on the retina, and diminished, through the transparent sclerotica. You may see the same in the living body; if you hold the candle before the eye of a child, directing the cornea outwards, the image appears inside, shining through the thin conjunctiva.

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* That the convexity of the cornea, and the refractive property of the aqueous humor, is of consequence to the function of vision, is evident, even regardless of the physical laws, from the construction of the eyes of land and water animals. The cornea is generally stronger in land animals, the lens less curved than in animals living in water; the aqueous humor differing much in density from the air but less from the water, it is natural that a very convex cornea, may much diminish the divergence of a system of rays falling upon it, or even convert it into convergency; while it is immaterial whether the cornea be convex or plane, when the rays passing from water fall upon it, because they can then be refracted, even by a highly curved surface, the difference of the refractive power, in both animals being very small. Animals, therefore, living in water, possess lenses of a high refractive power to effect the necessary degree of refraction; whilst in animals living on land, the greatest refraction takes place on the entrance of the rays through the cornea. The arrangement of the layers of the lens contributes in the latter animals to its great refractive power. Senff has shown that the lens whose nucleus is surrounded by less and less light-refractive layers, altogether refracts the light stronger than if it possessed throughout the high refractive power of the nucleus.

The field of vision includes the extent of the *direct* and *indirect* vision. The extent of the field of vision for the direct vision is determined by the movement of the eyeball in its orbit to all sides without turning the head, in which movement the axis of the globe may be turned in all directions within a segment of a circle of nearly 120 degrees.

Accommodation of Sight.

A distinct image of an object (whose different luminous points should be separately received) can only then be formed on the retina, if the divergence of the cone of rays corresponding to each point, after decussation falls exactly on the surface of the retina.

In order that objects in different distances should be distinctly seen, it is necessary that changes should take place in the eye, altering the refraction of the luminous rays, and thus accommodating the eye to the perception of a correct image of objects situated at various distances. That this does take place, you can convince yourself by looking with one eye at the ends of two needles, held separately for a distance, and covering each other: the first will appear clear if you look at it, and the second hazy; whereas the first will appear cloudy if you look at the second needle. The accommodation of sight depends not only upon the exertion of the ciliary muscle by drawing the lens forward, or at the same time making tense the choroid coat and retina, thus diminishing the space circumscribed by the cornea, ciliary muscle, and choridea, but is greatly affected on one hand by the effect of the movements of the iris, and on the other by the external ocular muscles, which, probably by their different combined actions, are capable of altering the diameters of the bulb, thus altering its refractive power. Recent investigations of E. H. Weber, prove the eye *not* to be entirely filled with fluids, which would serve in support of the possibility of a diametrical change. From the circumstance, that in healthy eyes it causes no pain to look at the distance, however long it may last, whereas to look at a nearer object for a time causes considerable exertion, which is followed by fatigue, one might infer the eye originally and naturally, to be accommodated for distances; and really, one comparatively seldom meets with myopic children, a state which develops itself more or less, from the manner of occupation, if the cause be not a congenital error of the highly refractive media.

The altered relation of some parts constituting the interior of the eye, will have as a consequence a difference of their refractive power. If we reflect that according to measurements of Valentin, only a locomotion of one tenth of an inch is sufficient for the lens to accommodate its refractive power from four inches to an endless distance, we can have no difficulty in believing in the possibility of an adaptation by the locomotion of the lens ; and, indeed, if you look close at the form of the iris which it assumes when, for instance, this boy or any one else suddenly accommodates his sight to the needle held near his eye, after having accommodated his sight to a distance, you will perceive that the iris assumes a convex shape, as if protruded by the lens or pressed by a voluminous cataract. That the accommodation of sight does not depend wholly upon the ciliary muscle, which has its controlling antagonism not only in the elasticity of the parts, but even in the activity and movements of the ocular muscles, may be proved by the fact that patients operated on for cataract—or, better, after entire removal of the lens—do retain or regain the power of accommodation in some measure.* The instillation of atropine drops into the eye debilitates the accommodative power for near objects, not only by disturbing the equilibrium of the dil. and sphinct. muscles, thus dilating the pupil, but by impeding the activity of the ciliary muscle. That the ocular muscles (rect. and obl.) contribute† to the accommodation of sight, may be proved by the myotomy which in many instances reëstablishes the sight immediately after the operations, and often improves it considerably if there existed any. I believe that even the orbicular muscle contributes to it, from the fact that persons in fixing a near object succeed much better in seeing, by compressing the eyeballs *suddenly*, thus diminishing the palpebral aperture, than if this is slowly effected. In such instances it is not the exclusion of the diffused rays of light which corrects the sight, as this would be effected equally by closing the eye gently, but to the alteration of the diameter the closer sight is thus attributable.

A deviation from the normal function of vision marked as an impairment, or the entire loss of sight, not dependent, however, upon intransparency of the cornea, aqueous humor, or lens, is called respectively amblyopia and amaurosis. Amblyopia differs from amaurosis only in the degree of the disturbed function, and both may originate from the same cause. Both may be produced by direct or indirect causes altering the organic structure of the eye and its contiguous parts, the optic nerve, brain, etc., or result from a disturbed function of neighboring or remote organs. The functional disturbance may be followed by or precede the organic change, or both may coëxist. The eye being a repetition of the whole organism, containing all the textures met with in other parts of the body, it is necessarily exposed to all possible organic changes and functional disturbances similar to those met in the body elsewhere. Moreover, as its anatomical construction present sa modification of similar textures, and its function being a peculiar one, a disturbance will result from minute causes scarcely worth noticing in other organs. As, however, there exists no strong line of demarcation between many of the causes producing this affection, the result of one cause giving rise to another,* and being combined and associated with each other in various ways, a precise and exact division of this affection will not be possible, even if the changed anatomical construction of the eye and neighboring parts, and its disturbed function and that of other organs, should be chosen for a base. It may, however, facilitate you in gaining a general outline of the causes producing the affection, if we retain this latter as the base of a general division. The causes producing amblyopia and amaurosis may be *organic*, *direct*, and *indirect* ones; it may be caused, by wounds of the orbita and fractures of it; within the orbita it may be produced by exostosis, hydatids, aneurism, tumors (albuminous, fibrous, sarcomatous, cancerous, etc.) which either compress the retina or the optic nerve, or stretch it by protruding the eyeball, and thus alter the diameter and relative position of the media. It may be induced by thickening of the sheath of the optic nerve extending into the orbita, by inflammation, softening and atrophy of it.

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* E. Jaeger, "Ueber Staar und Staaroperationen," 1854, page 115. According to measurement instituted with the streaked scale (Strichscale), a great number of patients operated on for cataract have shown, often even after a few weeks, an accommodation of sight.

† Professor Arlt asserts that it is effected by the tension of the oblique and rect. muscles. When the muscles press the bulbus becomes smaller, the vitreous humor makes room in all directions, chiefly backwards and forwards, the lens cannot advance or the cornea should have to support a greater pressure, the ciliary muscle contracts, the pupil becomes smaller, and hence is effected the retrogression of the vitreous body further.—*Vienna Med. Woch., June,* 1854.

II. Within the eyeball, it may be caused by a congestion of the choroid coat or the retina. This cause, Gentlemen, is a *very frequent* one of amblyopia and amaurosis. It may be produced by inflammation of the choroid coat (mostly partial), and the various causes resulting from it (as paralysis of the ciliary muscles).† It may be produced by localization of the different products on it out of the vessels of the dyscrasic blood in syphilitic, tuberculous individuals, thus infiltrating the parenchyma of the choroid coat, and by subsequent resorption of its fluid constituents leaving more solid and dense parts formed variously and observable by the eye speculum; or, as consequences of retinitis,* which may induce it also, induration, softening, atrophy, hypertrophy, ossification, and other changes consequent upon deep-seated inflammations of the eyeball pressing on the convex or concave surface of the choroid coat or retina. Further, it may be induced by aneurism of the central artery of the retina, by apoplexy or obliteration † of it, by concussions or laceration of the retina, by hydropthalmus, by an altered state of the hyaloidea in the thickening of it, and by a morbid change of the structure and density of the vitreous body, which is by no means a rare cause, but was less known as such before the use of the eye speculum.

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* The organic change to the functional disturbance, and *vice versa.*

† Choroideitis is one of the most frequent and most dangerous eye diseases; and probably the cause of amaurosis glaucomatosa, the infl. extends but rarely on the whole extent of the choroidea, and attacks mostly the anterior or posterior part of it: the iris and retina, or one or both, may be affected at the same time. Its product is fibrinous or albuminous.—*V. Hasner.*

III. Within the skull, it may be produced by depressions attending fractures of the skull, by tumors situated on its internal surface or on the dura mater, and by various other diseases of the head consequent upon inflammations of the brain or its coverings, such as induration, softening, suppuration, tubercles. It may be induced by concussion of the brain produced by gunshot or other wounds of the head, by congestion and enlargement of the cerebral vessels.

Amblyopia and amaurosis may be produced from functional or organic derangement of other remote organs. It is often associated with uterine disturbances, amenorrhœa,‡ dysmenorrhœa, metrorrhagia. It may be produced by plethora, and by general *anœmia* or its consequences. Amblyopia may be produced by worms in the intestines, or diseases of the alimentary canal, by the irritation of the sympathetic nerve, thus reflecting through the spinal marrow the fibres influencing vision. Amblyopia may be induced by an anomalous quality of blood, as in albuminary hydrops,§ where it is almost the first symptom.

All circumstances tending to alter the quality or quantity of blood, and thus depress the constitution, or increase the vitality of some or all organs, may contribute to the development of amblyopia or amaurosis. The same holds good of the nervous system; *i. e.*, circumstances causing increase or diminution of the nervous system, generally or locally, may contribute to the development of the affections under our consideration. The reciprocal reaction of the condition of one system on the other, will naturally influence it. You may perceive by this, that the division of amaurosis is only a conventional one, according to the many divisions existing in the medical science. You can neither bring all under the head of nervous or blood diseases, or both together, nor attribute it always either to local or always to general causes. The combinations of all such causes being manifold, it is evident that a strict division is scarcely possible.

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* *Retinitis* may have as its result a coagulable and organizable exudation, as well as a purulent and sero-plastic one. As a further consequence of such an inflammation, is a permanent enlargement of its vessels, softening (malacia) atrophy of the retina and the optic nerve.—*Lehrbuch der pathologischen Anatomie, Dr. C. E. Bock*, 52.

† Guthrie and Ammon.

‡ Prof. Barker informs me that he met, in his private as well as clinical practice, about a dozen of cases of amblyopia and amaurosis as a result of amenorrhæa; many of them improved, and some even were entirely cured, by the establishment or re-establishment of the menstrual courses.

§ Landouzy.

Amblyopia and amaurosis may be divided in—

1. Congestive,
2. Erethic, } Congestive.
3. Torpid, }

Amblyopia and Amaurosis in general.

The symptoms of amblyopia and amaurosis are objective and subjective. The objective symptoms are more or less confined to the iris and the state of the pupil, if we abstract from the examination with the eye speculum, which is the most important means of establishing the diagnosis.

The movements of the iris are dependent upon the reflex action of the sensitive and sympathetic nerves on the motory nerve. According to Magendie and Budge, the contraction of the pupil which is consequent upon the influence of light on the retina, has a central organ in the corpus quadrigemina, which stands in relation to the optic nerve and oculo-motorius as the spinal marrow to the sensitive and motory roots of the spinal nerves. With the extirpation of the corpora quadrigemina, contraction of the pupil, through the influence of light on the retina, ceases. The corpora quadrigemina on one side influence the movements of the iris on both sides, so that the extirpation of the corpora quadrigemina on one side, may be followed by movements of the iris produced by the influence of the corpora quadrigemina, on the other side. The dilator pupillæ is provided with branches belonging to the nervus oculo-motorius, whilst the sphincter pupillæ seems to be provided with fibres running in the same way, but not belonging to the oculum, which seem to take their origin separately in the brain; at least, the observation that in paralysis of the oculo-motorius, the pupil may retain its movements, speaks for it. Extirpation of the ciliary ganglion, or destruction of it by disease, causes dilatation and immobility of the pupil. The sensitive nerves providing the eye are the first and second branch of the trigeminus, which not only cause the sensation of all parts of the eye provided by them, but decidedly influence the circulation of the blood, the secretion, the absorption, and the nutritive process of the eye in general.

The sympathetic nerve exerts its influence on the eye chiefly by means of the *ciliary ganglion* and some other branches. The sympathetic nerve performs its function, as anywhere else, by influencing the activity of the blood-vessels, and governing the chemical organic process, and probably even the involuntary movements of the iris, chiefly those which cause the dilatation of the pupil.

The iris receives its primitive fibres not only from the oculo-motorius and trigeminus, but from the superior cervical ganglion; the fibres coming from the ganglion have their central organ, according to Budge and Wagner, in that part of the spinal marrow which corresponds to the first three thoracic vertebræ; because irritations of the sympathetic nerve above the first cervical ganglion along its whole way as far as the ciliary ganglion, produce dilatation of the pupil, whilst irritations of the thoracic and abdominal part of the sympathetic nerve produce no dilatation of the pupil. If, however, dilatation of the pupil does take place in consequence of such an irritation, it is effected by reflex action from the spinal marrow.

The nervous fibres of the iris coming from the trigeminus and sympatheticus seem to stand in an antagonistic relation to the nervous fibres of the oculo-motorius. Paralysis or dissection of the trigeminus and sympatheticus caused an increased influence of the oculo-motorius, and therefore contraction of the pupil; whereas irritations of the sympatheticus diminish the influence of the oculo-motorius, and cause therefore dilatations of the pupil. Irritations of single branches of the trigeminus, chiefly of such which are in nearer relation to the ophthalmic ganglion, communicate their irritation to the sympathetic nerves of the iris, and *thus* cause dilatations of the pupil; whereas intense irritations of the whole ophthalmic ramus, or even of some other branches too, reflect in a higher degree on the oculo-motorius, and *thus* produce *contraction* of the pupil.

The dilatation, therefore, and contraction of the pupil, is dependent upon the prevalence of the activity of one or the other antagonistic forces and the influence of the sympathetic nerve. You will, therefore, meet, Gentlemen, amaurosis with dilated pupils, and amaurosis with contracted pupil, or of a middle size, or perfectly round, or angular, and drawn more towards one direction, according to the influence the corresponding nerve-fibres, producing and directing the movements, may exert, on the whole or part of the iris. But not the nerves alone and their state influence the movements; the vessels of the iris and their state modify the movements, or contribute to its degrees. The congested state of the vessels may influence it greatly, and even suspend it. The pupil in this patient is of a middle size, not round, but more oval in the right eye, and somewhat angular in the left eye. If separately examined (by closing one eye), neither of the irides reacts to the influence of light, as you see when I produce with my hand a shade before the open eye, and remove it suddenly. In amblyopic patients, who have some sight in one eye, it is of consequence to close it when examining the affected one, as the movements of the sound one may be communicated to the affected one. Some ophthalmic surgeons content themselves with closing the eye to be examined, by the lid, without apposition of the hand; which is a mistake, as light passes through the eyelids, and does not produce such a contrast with the shadow as when covered with the hand. The slightest reaction will show itself in the eye *thus* examined. The investigation with the eye speculum permits the examination of the living retina, and it was stated by those* who made examinations with the eye speculum that most of the cases hitherto observed have shown morbid changes of the retina, whilst in those where no change was traceable, a central cause is assumed to exist. The results of retinitis and chorditis will be visible in form of different deposits, traceable by the eye speculum, spots of different form, extent, and color.

Congestion of the vessels will be to a *certain degree* apparent. One commits an error in assuming, as it is lately often done, a congestive state of the vessels, if no other cause traceable by the speculum is found; although comparatively you may see in the same individual in both eyes a different appearance, the congested state of which will be apparent, still the enlargement of the vessels being as relative as the difference of the red color in the different eyes, it will not always be possible to assume the existence of such a state unless the developement of a comparatively high degree of the general plethoric habit, or other causes locally enlarging the vessels, justify such a diagnosis. Although there exists some independence of the circulation in the capillary system of the arteria centralis retinæ, favoring, under certain conditions, a stagnation of blood, it nevertheless is in intimate connection with the general system carrying blood. The developement of the arteria centralis and its capillary system is different in different individuals, respecting the calibre of its vessels; and although the chief branches, running up and downwards, are more or less alike, still their dimensions alter and vary in number as well as size. If you look into my right eye, you will discern the much-developed arteria centralis retinæ and its branches, by the eye speculum, even without the pupil being dilated by bellad., and without the use of a magnifying glass; and still my sight is perfectly good. In other individuals the same arrangement and enlargement of the vessels may be a sufficient cause for congestive amaurosis. This shows you, therefore, that it is not always advisable to content ones'self with the sight of enlarged vessels in order to establish a diagnosis of amaurosis. True it is, that a stagnation of blood will cause an enlargement of vessels, and the abundance of blood may be looked upon often as a cause of amblyopia, or even as producing amaurosis.

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* Helmholtz, Donders, Ruete, Hoyack, Tilanus, E. Jaeger, Van Trigt, and Schauenburg.

If you examine the eyes of this other patient (the woman) you will find in the right eye as well as in the left eye, but considerably more in the latter, large, distended vessels running in all directions, the horizontal ones scarcely much less in diameter than, under ordinary circumstances, the vertical ones appear; and if you look at it patiently you can observe, even without a magnifying glass, a change taking place sometimes in the dimension of the lower branch; the imperfect sight she complains of, which becomes at times so bad that she can scarcely see and every thing turns black before her eyes; the flashes before her eyes; the sluggish movements of the pupil, will admit, taking into consideration the transparency of the dioptric media, the diagnosis of a *congestive amblyopia;* the more so, as the stout, plethoric appearance of this red (I mean rosy) cheeked woman, who complains of cerebral congestion, favored by the excessive heat, chiefly when suffering, as she often does, from constipation, speak for its probable existence. The subjective symptoms are pains across the eye brows and forehead, coming on sometimes in certain intervals, mostly irregular, sometimes shooting pain in the interior and different—often dependent in degree and intensity—from the cause producing amaurosis.

In the beginning of the disease the patients see objects imperfectly, misty, dim as this patient did see, the patients complain of the light being too weak or (in those in which the sensibility of the retina is increased by too strong a light); the haziness and cloudiness increase; the objects appear gradually, sometimes suddenly, dimmer; the letters of a book, when read, seem to run into each other, the eye feels soon tired. Vision is impaired in the most different ways; the perception is an anomalous one, or the representation by the mind may be a defective one; the objects appear variously distorted, and are perceived differently from what they really are in regard to form, color, proportion, and relation to each other. Various kinds of spots are perceived as moving about, called motes, mouches volantes, like those the patient complains of, or confined to one spot (scotome); the sight diminishes until vision is entirely abolished, and the patient perceives not even the strongest light falling into the eye.

Mouches Volantes.—If the rays of light fall into the pupil in a convergent direction and form a cone of light, corpuscles contained in the eye can be observed in ones own eye, but only such as are smaller than the pupil and are situated close to the retina; there are as many cones of light and as many points depicted on the retina as luminous points of an object send rays of light into the eye. An opacity in the cornea or crystalline lens in the form of a dark spot, which is smaller than the pupil, might prevent the entrance of some rays of light of one or several different cones, but could not make entirely invisible a point of the object, i. e. throw a shadow on a part of the retina, as the other rays falling undisturbed into the eye are sufficient to depict on the retina the perfect but somewhat darker-appearing image. But if small or dark corpuscles, which refract the rays of light differently from the normal, transparent, dioptric media, are situated close to the retina, the former may produce an irregular refraction, and consequently cause the appearance of colors or throw shadows on the retina and thus make invisible some spots of the object. The closer such an irregularly refracting and light-absorbing corpuscle is situated to the retina, the smaller will be its shadow thrown on the retina, whereas it will be greater, paler, the further from the retina the corpuscle exists. The materiality of these scotomes can be proved by the following circumstances: similar mouches volantes move in a direction independent of that of the eye; by a considerably strong movement of the eye the same may be directed higher (a little to the side) but they return and seem to sink after having mounted. If the axis of vision is directed in a certain point in the field of vision, after a forcible movement of the eyes, one perceives that the movements communicated to them by the direction of the eye is inconsiderable as they become soon quiet.

2. They change their relative position in regard of the singular parts of the figure, as well as in regard of their situation in the field of vision.

3. The layers more distant from the retina are more clearly larger, and have a more faded margin, than those situated closely.

4. The beads form often distinct loops, and this string of beads which crosses the other, situated nearer to the retina, forms a concave arch turned towards the retina, which appears paler and more cloudy than the rest of the string, being a little more distant from the retina, and throws therefore a less marked shadow on it.

5. Its original form is always the circular, and its shadow depends upon the intensity of the light.

6. They refract the light like a drop of water, which appears, under the microscope, with a dark margin whilst its centre is illuminated. This dark margin throws a shadow on the retina, which has, in some scotomes, a dark centre. The less the intensity of the light, the darker the shadow appears. The motes, or mouches volantes, present the most different varieties in shape, size, number, and color. Sometimes they are streaks, or lines, straight or angular, variously colored. Often they resemble forms reminding of insects, as a spider, or worm, etc. Their appearance is not always a symptom of an affection of the eye; they do exist in many without

injuring the sight, although they are annoying. I am myself annoyed by such mouches volantes appearing in my left eye; after long exertion of accommodating to a near distance, or any other cause producing a greater congestion of blood to the eye, or generally to the brain, I see a globular form mounting and descending, like pearls, whereas my sight is not troubled at all.

The appearance of motes may be produced artificially, by holding a card, perforated with a fine needle, towards the clear sky, or against a surface reflecting the light strongly, and looking through the hole; a very fine linen, held in the same way, will produce them. In some pathological conditions of the eye, they appear in the same way; for instance, when the cornea is anomalously vascular; the capillaries act in the same manner as the fine filaments of linen. They appear in congestion of the retina frequently, or by increased sensibility of the retina.

Ruete considers (from the existence of motes more or less constant even in healthy eyes, and probably dispersed through the whole of the eye, but perceived only under certain circumstances, and merely those situated in the vicinity of the optical axis, close to the retina) these corpuscles a kind of cells, as a morphological product of a substance forming and nourishing itself, and thus corresponding with the change of elements and the general nutrition of the eye. The frequency with which they appear, and the attention paid to the appearance, increase the annoyance and make them yet more troublesome.

The perception of the images depends upon the sensibility of the retina. If the latter is dynamically or materially altered, or if its connection with the optic nerve is interrupted, blindness, defective perception, or disturbance of the visual power does take place, in consequence of inactivity or qualitatively altered action of the nervous apparatus of the eye. If the retina is in a state of torpor, small objects will be seen with greater difficulty, although the other constituents of the eye be in a healthy condition. If parts of the retina are paralyzed, the same do not communicate the received impression to the sensoria, and therefore appear other points of the object corresponding to the affected part, as *dark* spots on the object, which become the more apparent the healthier the other parts of the retina, the nearer they are to the optic axis and the intenser the objective light is. On the contrary, they are not apparent in an obscure light, or by closed eyes. The movements of those dark spots are not, like the mouches volantes, independent from the movements of the eye, but coincide with the directions the latter takes. If the paralysis does extend on the half of the retina *hemiopia*, half sight, takes place. If paralysis takes place only in one eye, which frequently occurs after wounds and local diseases in the eye, the spots appear *dark only* when the sound eye is closed, and cloudy if it is opened.

The perception of dark objects on light ground is to be compared with the perception of the dark spots caused by partial paralysis of the retina, for instance the reading of black letters on white paper. The objects are dark if they absorb all the light falling on them, consequently the retina cannot be stimulated by them; the corresponding parts of the retina remain therefore in the state of relative tranquillity; this tranquillity is projected and received by the mind in the form of the outline of black objects. The perception, therefore, of black objects depends exclusively upon a subjective process.

Congestive amblyopia and amaurosis may be produced by all local or general causes effecting a greater congestion of blood to the eye. Local hyperæmia may be induced by every cause producing an enlargement of the smallest capillary vessels, which may exist in the walls as well as in the contents of the vessels, and in its nearest vicinity, or in more remote parts (in front of, or posterior to the congested part), and may be found in the increased pressure of the blood, or in the diminished resistance of the walls. The pressure of blood maybe increased, in consequence of the accelerated conveyance of the blood from the arterial side, or may be caused by an impediment in its flow towards the venous side. Increased or diminished activity of the heart may, therefore, produce congestion to different organs, and consequently, also, to the eye. The altered state of the blood, regarding its quality and quantity, will naturally react on the nervous system accordingly. This form of amblyopia and amaurosis occurs frequently in plethoric as well as in anæmic individuals, and may be associated with general cerebral congestion, or be produced in consequence of a peculiar position of the head, as in miners, or in consequence of an exertion of the eye on minute objects, as required in the occupation of miniature painters, goldsmiths, watchmakers, jewellers, and seamstresses, who are compelled to stoop more or less. The use of spectacles and glasses, concentrating the light too strong, may produce this affection; suppression of the hæmorrhoidal and menstrual flow, diseases of the valves of the heart, tumors in the stomach, or whatever cause impeding the circulation, may induce such a state of sight.

Wirchow asserts that every local pathological process results from a modified nutrition, and is associated with changes of the exudation and resorption (therefore chiefly inflammation): it exists on impairment of the conditions of diffusion between the blood and textures, according to which one or the other is increased or diminished, nutrition being mainly dependent on two currents of fluids, the one proceeding from the capillaries into the textures, the other from the textures into the capillaries, in certain conditions of diffusion. Used-up elements of texture become resorbed, whereas new constituents of the blood exude. An altered capillary exudation must take place in every congestion.

Erethic and *torpid* amaurosis may be induced both from causes depressing the powers of life, and thus exhausting the constitution, as direct loss of blood, or in females, copious metrorrhagia, insufficiency of nourishment and its consequences, or sudden abstinence from accustomed stimulants, or nervous exhaustion dependent on sexual intemperance, or diseases of the spinal chord; or it may be induced by causes producing locally, in the eye, erethismus or torpidity of the retina, as over-exertion of the eye, be it through the abuse of spectacles, continual and protracted microscopic observations, or examination by the eye speculum; or it may be further caused by every excessive illumination, be it from the reflected light on the retina from the eye speculum, or observations of solar eclipses, or the glare of a tropic sun, to which sailors and travellers are sometimes exposed; or it may be caused by the reflection of light from the long-continued snow. It frequently occurs in engravers, polishers, jewellers, who have to look continually on the reflected intense light from the smooth and glaring surface, or in jewellers and watchmakers, who have to look continually on well-illuminated, minute objects, with the use of magnifying glasses; generally it is met with in seamstresses, who exert their eyes in sewing dark materials by too faint a light, or reflecting, white material too strongly illuminated: all causes, therefore, augmenting or diminishing the sensibility of the retina, and thus exhausting it, may produce erethic or torpid amaurosis. It is self-evident, that the vascular system of the eye is adequately influenced by the morbid functional alterations of the nervous system, be it in consequence of general or local causes. In the absence of a local cause, we are justified in assuming a central cause producing amaurosis. A morbid mixture of blood can not exist without an injurious effect in the circulation, respiration, and innervation. In anæmic individuals you will find pallor of the parts rich of blood, as of the lips, gums, palpebral conjunctiva, tongue, and cheeks. Menstruation ceases, or sometimes morbid hæmorrhages take place, in consequence of the greater liability of the badly-nourished walls to be broken through, chiefly epistaxis and hæmorrhages of the uterus, nun's murmur, blood in the heart and arteries, diminished heat in feet and hands, shivering, bad nutrition of muscles, flaccid flesh, sensation of fatigue and short breath after small exertion, slow digestion, obstruction.

Nervous symptoms occur in consequence of bad nutrition of the nervous system (headache, vertigo, darkening before the eyes, syncope, ringing in the ears, heart-beating, morbid appetite, spasms). Causes of such a state are mostly debility, mental depression, want of food, protracted lactation, debauchery, excessive discharges, as from abscesses and ulcers, subterranean and damp dwellings, insufficient light, sedentary life, and deficient air and exercise.

You observe, gentlemen, how intimately connected ophthalmic medicine and surgery is with the studies of anatomy, physiology, and pathology, on which the treatment is based; the eye being in intimate connection with the other organs, and its functions in some measure dependent upon them, consideration must be had of such circumstances, as the *ophthalmic surgeon* sinks to a mere "oculist," who empirically treats but the eye, as a mere optical instrument, dependent upon itself, regardless of its intimate connection with the other organs of the body, and their influence on it, irrespective of all the pathological processes, which are similar to those in other parts of the body.

Remarks on the Pathology of Infantile Laryngo-tracheitis, or Croup, as the basis of its rational treatment. By E. R. PEASLEE, A. M., M. D., Professor of Anatomy, &c.

(Concluded from the August No. of the Monthly, p. 102.)

PART II.

The treatment of Infantile Laryngo-Tracheitis, or Croup, as rationally based on the preceding views of its pathology.

The *indications* in the treatment of infantile laryngo-tracheitis, or croup, are at once suggested by the following recapitulation of the prominent points of the preceding part of this paper.

1st. Croup is always a laryngo-tracheitis, or inflammation, not of a specific kind, of the mucous membrane of the larynx, extending thence into the trachea, also, at least.

2nd. Like other inflammations, it may be either sthenic or asthenic.

3rd. Its progress is always downwards in the air-passages, whether it commences in the larynx, or (as is more frequently the case) higher up.

4th. It is always attended by an exudation of plasma upon the surface of the inflamed membrane.

5th. The inflammation subsides in the part on the occurrence of exudation.

6th. If the plasma *remains* on the surface (it being usually detached and removed in case of the adult, by coughing), it may

a. Become re-absorbed, which is a rare result; or,

b. Be converted into purulent matter, and then excreted; or,

c. Become organized into a false membrane. This last result is far more common in early life than in adults, though then occurring only in about one-sixth of all the cases. Consequently it can never be predicted, at the commencement of the disease, whether a false membrane will, or will not, be formed.

7th. If a false membrane is formed, it will become spontaneously detached, if the patient's life is sufficiently prolonged. Its removal, however, in whatever way effected, does not *insure* recovery.

8th. Laryngismus is associated, to some extent, with true laryngo-tracheitis, as a matter of course.

9th. Catarrh generally precedes infantile laryngo-tracheitis. But the catarrhal discharge, *so-called*, during the more advanced periods of this disease, is the purulent fluid formed by the degeneration of the exuded plasma.

10th. Diphtherite, or the "croup of adults," differs not *pathologically* from infantile laryngo-tracheitis. Generally, however, it is an asthenic form of laryngo-tracheitis, since it usually attacks persons already debilitated by other diseases.

The *indications* in the treatment of infantile laryngo-tracheitis, which flow from this view of its pathology, are as follows:

I. To arrest the inflammatory process, and control the laryngismus.

II. To prevent the organization of the exudation into a false membrane.

III. To remove the false membrane, if formed.

IV. To support the patient's strength, so far as may be, through the disease.

I. *Means for averting the inflammatory process.*

We here include:—

a. Blood-letting.

b. Tartrate of antimony, nitrate of potassa, mercurials (?).*

c. Emetics (?).

d. Expectorants (?).

e. Counter-irritants (?).

f. External application of cold.

g. Applications internally to seat of inflammation.

a. Abstraction of blood. In a clear case of sthenic laryngo-tracheitis, two or three leeches, according to the patient's age, may be applied to the throat or the top of the sternum, and the bleeding be promoted by a cataplasm; but it must be remembered that 3 oz. of blood lost by a child six months old, is more, proportionately, than 1¼ lb. lost by an adult, and that children generally manifest but a slight tolerance of blood-letting. Moreover, it must be remembered that this remedy is applicable only for the sake of arresting or removing the inflammation, and is therefore entirely out of place after the exudation is poured out, and the progress of the inflammation is thus arrested. The only fact in favor of its adoption after this has occurred, is, that as the inflammation progresses *downwards*, it may still be advancing below the point covered with the exudation. This will be indicated by the state of the pulse, and of the respiration, and by other concurrent signs. But the presumption always is, that blood is *not* to be taken in the absence of decided reasons to the contrary.

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* The remedies marked (?) are of doubtful value for fulfilling this indication.

Venesection, we believe, to be very seldom proper in a patient less than 7 years old; and blood should not be taken, in any way, in asthenic cases.

b. Tartrate of Antimony. It is a fact never to be overlooked in the treatment of inflammation, that the tartrate of antimony may be so administered as to become a most valuable substitute for blood-letting. I allude to its powerful effects as a *sedative*, when administered in small and frequently repeated doses, *e. g.*, one-thirtieth to one-twentieth of a grain dissolved in water, administered every hour or two, to an infant of twelve months, until the pulse becomes softer and slower, and the surface cooler, when the frequency of the doses is, of course, diminished, so as merely to continue this effect. In this way the reducing effects of loss of blood are produced temporarily, and till the inflammation is arrested; with the advantage over blood-letting, that on withdrawing the remedy, at any time when desired, the circulation rises again, and all permanent debility is prevented.

The effects of this remedy are, however, to be watched with the utmost care. Some infants easily yield to its sedative effects, and in some, violent irritation of the alimentary canal is produced by it. An infant, six months old, has been destroyed by one-thirtieth of a grain of this remedy; and another barely escaped with life, after taking, in three doses, sixty drops of the hive syrup. If given to the amount to produce vomiting, its sedative effect, as is well understood, is not experienced. It is better tolerated in combination with very small doses of an opiate.

Nitrate of Potash.—This remedy should hardly be relied on as a sedative in infantile laryngo-tracheitis, unless in asthenic cases, and also when from a peculiar irritability of the alimentary canal, or some other cause, the tartar emetic is not well borne. In such cases it may be given freely in solution, with some probable effects in averting the inflammatory process. The entire inappropriateness, however, of this remedy, and still more of blood-letting and antimony, *after* the exudation has occurred, and the pulse has fallen, will be apparent to all. (See August No. of Monthly, p. 98.)

Mercurials, especially Calomel.—This will be considered under the next indication, as we believe it has very little, if any, power to *arrest* inflammation of the air-passages. A single dose of two to five grains may be given as a cathartic at the outset, if for any particular reason it is indicated, as a stimulant to the liver; and from both its safety and certainty of operation in children, it is generally judicious to administer it as above if any cathartic is required.

c. *Emetics.*—Much stress has been put upon the action of emetics in infantile laryngo-tracheitis; and all, as we believe, upon a false theory of their action. This particular point, however, will be considered under the second indication.

Inasmuch as laryngismus is often produced by irritating matter in the stomach, and when present in this disease, is doubtless increased by these causes, a mild emetic is never injurious, and is often very beneficial at its commencement. Indeed, in some cases of catarrh, very difficult at first to distinguish from this disease, an emetic will at once completely relieve the patient, and remove all anxiety as to the nature of the case.

Moreover, when given in the first stage of actual laryngo-tracheitis, an emetic may produce such a shock to the system as to put an end at once to the disease, by its mere "perturbating" effects. After the disease is fairly established, however, emetics, frequently repeated, are entirely out of place, as will be shown further on. While an emetic operation promises such an effect, or if the contents of the stomach are such as require to be removed, an emetic of ipecac. and tartrate of antimony, or, in asthenic cases, ipecac. and sulphate of zinc, may be used; it being understood that the emetic operation is not to be repeated unless positive indications subsequently arise.

When called to a doubtful case (like those of the second preceding paragraph*), we have generally given ʒ ss. to ʒ j. of the syrup, Scillæ Comp. (Hive Syrup), every fifteen minutes till free emesis is produced.

d. *Expectorants* are useful rather to fulfill the second and third indications, than for the arrest of inflammation. The tartrate of antimony, if given as already recommended, at the same time proves an efficient expectorant.

We shall specify certain expectorants, in the proper connexion, merely adding here, that they must not be given in the early stage, to the exclusion of the remedies which arrest the inflammatory process.

e. *Counter-irritants* are, moreover, not of any decided benefit, we believe, in the first stage of the disease; and they also interfere with the external local applications for the removal of inflammation, next to be mentioned.

After the heat of surface and the excitement of the circulation have somewhat subsided, and the application of cold is no longer beneficial, blisters and stimulating liniments may prove very beneficial in promoting the absorption of the exuded plasma; and they will, therefore, be again alluded to in another connection.

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* See also p. 101, Aug. No., second paragraph.

f. Cold applied externally.—We consider this of the greatest value and importance. If cold applications are efficacious in all cases of external inflammation, they are scarcely less so here, where the inflamed surface is so nearly superficial. Cold must, however, be continuously applied, to produce the desired effect. Applied at intervals, indeed, it rather promotes than retards the inflammatory process; since, during the intervals, the temperature rises above the normal standard, in consequence of the reaction of the chill on the surface.

Cold water may be constantly dropped from a sponge upon a compress laid over the throat of the child; and the latter should be of only one or two thicknesses of linen, that evaporation may go on as rapidly as possible.

The application of hot water, early in the disease, as sometimes recommended, therefore appears to us objectionable; and that of rapid vesicants (aqua ammoniæ, &c.) still more unwarrantable.

g. Internal application to the seat of the inflammation.—First to be mentioned under this head is the solution of lunar caustic, applied by means of a syringe, or sponge-probang,* as recommended by Dr. Horace Green. We have used both instruments, and decidedly prefer the latter, as applicable in *all* cases of disease in which the solution is required; while the former is not so, in our judgment, though it answers well in many instances.

The solution most frequently used is that of 40 grains of the crystals of nit. silver, to 1 oz. of distilled water. This solution has a more sedative and less irritating effect upon the mucous surface than a weaker one, as of 10 or 20 grains to the ounce of water.

In our judgment, there is no local application for arresting the inflammatory process in this disease, to be at all compared with the solution just mentioned. It should be, at first, applied to the fauces and pharynx only; and then, in 15 to 30 minutes, the probang may be passed into the larynx, and through the rima glottidis if required. The operation should be repeated in some cases, three or four times daily, in others only once.† Other solutions, or fluids, thus applied, may also be found useful—such as glycerine, olive oil, &c.; but none will probably be found to possess the efficacy of the nitrate of silver. Applied to the pharynx and fauces, indeed, as soon as the false membrane has appeared in these parts, it has frequently arrested the inflammatory process at once, and thus prevented its extension into the larynx and trachea. We should, therefore, feel it an unpardonable omission, at the present day, should we fail early to cauterize the pharynx (and the larynx and trachea, if already invaded by the disease), and to repeat the operation as circumstances might require in every case of laryngo-tracheitis. The objections sometimes raised, that this is a difficult operation, and also, if accomplished, a dangerous one—were always too puerile, and are now too generally known to be entirely unfounded, to require a refutation here.

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* The sponge must not exceed one-third to one-half inch in diameter, to pass through the rima glottidis of a child two years old, one-third inch being rather large at one year.

† Dr. H. Green has established the interesting fact, that much less irritation is produced by this operation in children with *croup*, than in adults with chronic laryngeal disease.

The only other method of direct local application we shall mention, is by inhalation. The inhalation of aqueous vapor is especially to be commended, on account of its soothing effects upon the inflamed surface; and it is also a valuable remedy for diminishing the laryngismus accompanying true laryngo-tracheitis. Its efficacy in this respect may be also increased by the addition of camphor, or stramonium, and other narcotics.

I. Remedies to diminish the Laryngismus.

We have just mentioned aqueous vapor, with camphor or stramonium. Tartrate of antimony also diminishes it, while producing its general sedative action; and any appropriate emetic, even, may be given with a view to diminish it, if it appears to be mainly due to irritating matters in the stomach. Opiates, and especially laudanum, have also been recommended. We would advise them only to the extent to overcome any existing nervous irritation, cautiously avoiding any decided narcotic effect upon the respiration, in a disease in which diminished aëration of the blood is the principal cause of a fatal result. For a similar reason inhalations should be continued only for two or three minutes at a time, and frequently repeated, and the apartment kept thoroughly ventilated. We also recommend the hydrocyanic acid as both a valuable sedative and anti-spasmodic.

II. *Remedies to prevent the organization of the exudation into a false membrane.*

The means included under this head are:

1st. Those intended to *remove* the exudation at once,* viz. expectorants, emetics, and the sponge-probang.

2d. Remedies which diminish the *organizability* of the plasma: calomel and alkalies.

3d. Remedies promoting absorption of the exudation: counter-irritants.

a. Expectorants.—In adults the exuded plasma is usually removed at once, or after degenerating into pus, by the act of coughing and expectoration. In infants this result far more rarely occurs, since they do not expectorate by voluntary efforts. Any remedy, however, which will render more fluid and abundant the secretion upon the air passages, will so far aid in detaching the exuded plasma; and which will then be expelled by the simple act of coughing. Expectorants, therefore, are beneficial to this end, and may be administered to fulfill this indication. We will mention only the syrup and other forms of ipecac. seneca, and the squill. Alkalies become expectorant also, as will be seen under the next indication.

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* See August No. of Monthly, p. 95, third.

b. Emetics exert no marked effect in removing the plasma from the air passages, and hence are not to be commended. But this topic also will be considered at length, under the next indication.

c. The Sponge-probang. But the most certain method of directly removing the plasma, is the application to the surface, of this instrument. If merely moistened with water, it will very well accomplish this object. But since the solution of nitrate of silver (grs. xl. to ℥ j. water) before mentioned, acts on the exudation both to destroy its organizability and to detach it, while it at the same time arrests the inflammatory process, as has been shown, we always employ it. Indeed, we should not hesitate to make an opening into the trachea through which to apply the solution, in some cases, if it were otherwise impossible. But we shall recur to this again (p. 25).

2. We next consider the remedies administered to diminish the organizability of the exuded plasma.

a. The preparations of mercury, properly administered, possess the property just mentioned; but since the proto-chloride of mercury (calomel) is the one which manifests this property in the highest degree, and has been much vaunted by some in the treatment of infantile laryngo-tracheitis, we shall speak of it somewhat at length, believing that some remarks upon its precise effects in inflammation will aid in assigning to it its true value in the disease under consideration.

It has long been admitted that calomel is most useful in inflammations of *serous* membranes. *E. g.* in pleurisy, it is believed to promote the reabsorption of the exuded plasma, and thus to prevent the formation of adhesions and false membranes. It has, therefore, also been termed an "absorbefacient," or excitor of the absorbents.

We admit that calomel is most useful in inflammations of serous membranes, or rather in *all* inflammations where false membranes may be formed; also that it favors the absorption of the exuded plasma, and thus may prevent their formation; but, at the same time, it does not in any way increase the action of the absorbent vessels of the part affected; nor does it arrest the inflammatory process itself.

The whole effect of calomel in the diseases just mentioned, may be thus expressed: *it merely diminishes the organizability of the exuded plasma;* so that it is not so rapidly organized, and therefore a longer time is afforded for its re-absorption before organization takes place. This effect may now be regarded as established by experiment.

We are not cognizant of a single fact tending to show that calomel has any direct effect to arrest the inflammatory process itself; and therefore we have not given it any prominence in our list of remedies for that object (p. 198).

But in cases of inflammation of the alimentary canal (enteritis, colitis, &c.), calomel may exert a very decided *indirect* effect to arrest the inflammatory process itself. All the blood in the minute vessels of the mucous membrane of the alimentary canal, being collected by the vena portæ, and transmitted through the liver, any remedy which excites the action of the liver (i. e. acts as a *cholagogue*), promotes the circulation through the vena portæ, and they relieve congestion of the membrane itself. Thus calomel indirectly acts in enteritis and colitis to arrest the inflammatory process itself; while at the same time the flow of the bile, thus produced over the inflamed surface, also produces a positive soothing effect.

But it is only when calomel acts as a *cholagogue*, and therefore to some extent as a *cathartic*, that it arrests the inflammatory process even in the diseases just mentioned. To produce this effect it must be given also in doses (to an adult) of 5 to 15 grains. In laryngo-tracheitis, on the other hand, it has no such effect, in any dose, to arrest the inflammation; and so far, therefore, and in such doses, it is not indicated in this disease, except perhaps, in a single dose at the outset, as before explained (p. 198).

On the other hand, calomel administered in doses, frequently repeated, of ½ grain to 2 grains (to adults), produces no cholagogue effect, but an entirely different one, from its gradual absorption, probably, into the blood, viz. a diminished power of organization in the blood plasma, as before stated. Whether this effect is produced by diminishing the fibrine, and therefore *weakening* (and thinning) the plasma, is not yet conclusively decided; though we regard this as the true explanation. Hence the value of calomel in small doses in all inflammations in which false membranes and adhesions are liable to occur, as pleurisy, endo-carditis, and the disease now under consideration.

While, therefore, we unqualifiedly condemn the custom of some, of giving large doses of this remedy (10 to even 20 grains) every three or four hours, in infantile laryngo-tracheitis, we may also perceive that small doses regularly repeated may prove of the utmost benefit. But we are to arrest the inflammation first, by the means before recommended, or at least employ them for a time, before we resort to this remedy.

After the first twenty-four or forty-eight hours, therefore, according to circumstances, it is desirable in a sthenic case, to commence with doses of calomel of ¼ to ¾ grain (for a child 9 to 12 months old), every four hours, or oftener; diminishing the quantity if any marked cholagogue effect is produced. This last effect is less liable to occur if ¼ to ½ grain of the pulvis ipecacuanhæ comp. (Dover's powder) is added to each dose.

Yet calomel must be administered in this disease, even in the small doses just recommended, with great caution, and constant reference to the delicacy of the little patient. True, there is very little danger of ptyalism occurring before the age of five to seven years; and it has been pronounced impossible before the first dentition commences. But it is now pretty generally known that mercurial preparations (and especially calomel) are not well borne by scrofulous—and we will also add anæmic—subjects, whatever their ages or diseases. It produces great general debility; and if any accident exists requiring the aid of the reparative process, as an ulcer or a wound, it may indefinitely prevent this process from occurring, or even lead to phagadæna, or perhaps sloughing, in the part instead. The plasma always possessing a low grade of vitality (organizability) in such persons, becomes so far debilitated by the mercurial that reparation is impossible; and it is only on discontinuing it, and substituting tonics and proper diet, that the desired result ensues.

The fact just mentioned is here introduced for the sake of application in this connection, as well as for illustration. In scrofulous children the danger of organization of the plasma into a false membrane in true laryngotracheitis, is far less than in robust children, on account of its low vitality there; nor do they tolerate the calomel if given as just explained. To such children, therefore, it is better to give the pil. hydrargyri (if any mercurial), and to withhold calomel entirely. In every case of *asthenic* laryngotracheitis, the propriety of administering calomel must be thoroughly canvassed before it is decided to administer it. As a general principle, certainly, it should be administered only in the *sthenic* form of the disease.

Though we have so far prolonged our remarks upon calomel, we must also record our testimony in favor of one more preparation of mercury in this disease: the subsulphate, or Turpeth mineral.* It is a valuable substitute for calomel in less sthenic cases, in doses of ¼ to ¾ of a grain; and is to some extent an expectorant also.

b. Alkalies. It has been established by experiment that alkalies also, like calomel, diminish the organizability of the blood plasma. They are, however, much less efficient in this way; and for that very reason are appropriate in the asthenic form of the disease.

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* The attention of the profession was first called to its use in this disease, we believe, by Dr. Hubbard, of Hallowell, Me.

Hence they become a very valuable substitute for mercurials, to prevent the organization of the exuded plasma, and should always be preferred when a milder remedy is believed to be sufficient. We have had more experience of the effects of the bicarbonate of soda in this disease; giving it in the dose of 3 to 5 grains every 4 hours, to a child one year old. Alkalies are well known to render less tenacious the viscid sputa of pneumonitis and acute bronchitis, and hence become valuable aids to expectoration in these diseases. Their power of rendering more fluid the fibrine mixed with the mucus in such sputa, accounts for this effect, and renders them also valuable as expectorants (see p. 10), as well as in preventing organization of the exuded plasma, in infantile laryngo-tracheitis.

As *alkaline stimulants*, the bicarbonate and the hydrochlorate of ammonia, are also valuable in the advanced stage of the disease, for sustaining the patient's strength, and promoting expectoration.

3. *Counter-irritants* may, lastly, be mentioned, as promoting absorption of the exudation, and thus preventing its organization. But, in regard to these, we merely refer back to page 199.

III. *Means for removing the false membrane when formed.*

These are *direct*, the probang; or *indirect*, as expectorants, counter-irritation, emetics, and tracheotomy.

a. The only direct method of removing the false membrane which need be mentioned, is the application of the solution of the nitrate of silver as already explained. We need not insist on the value of this application for the direct removal of the false membrane, at the present day, since cases have been recorded, in most of the principal medical journals, within the last two years, in which portions of the false membrane have been at once thus removed, and the patient evidently saved.* The sponge is to be carried into the trachea, and the operation repeated once in 2 to 24 hours according to the urgency of the case. With our appreciation of the value of this operation, we could not conscientiously omit it in the fulfillment of the indication now under consideration.

Expectorants and *counter-irritants* may still be continued, as under the preceding indication.

b. The use of emetics for removing the false membrane. Since emetics, frequently repeated, have almost uniformly been recommended for the purpose just mentioned, and much injury, in our opinion, results from this practice, we shall attempt to show that it is founded on a false hypothesis, and is objectionable in all respects.

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* For cases, see Dr. Chapman's articles in the March and July Nos. of the New York Journal of Medicine, and Dr. Green's paper in the July No. of the Monthly.

The foundation of the idea that the act of vomiting will expel a false membrane from the larynx or trachea, is the assumption that the acts of vomiting and of expiration from the lungs (including also coughing and expectoration) are, in their mechanism, almost identical. An account of the mechanism of both these actions will, however, demonstrate their entire dissimilarity, so far as their effects are concerned, and that an emetic cannot possibly exert any direct effect in the expulsion of a false membrane from the air passages.

Everybody knows that the object of the act of vomiting is the ejection upwards through the œsophagus into the buccal cavity, of the contents of the stomach ; while that of coughing or expectoration (or forced expiration) is to expel into the same cavity, through the rima glottidis, the contents of the air passage below. If, therefore, mere emesis will produce the latter effect, we should expect that coughing, or expectoration, would evacuate the stomach, and that, therefore, we might administer an emetic or an expectorant, indifferently, to expel the false membrane. Admitting this, however, the remedy is not needed till the membrane is formed ; and this occurs in only about one-sixth of all the cases. The indiscriminate use of *emetics* is, therefore, unjustifiable at all events and on any supposition. But we proceed to show that an emetic operation cannot possibly expel a false membrane from the air passages, on physiological grounds, except so far as it may do so by causing a violent concussion of all the contents of the thorax, or by some irregular and violent motions of the trachea—all of which indirect effects being also easily secured, as will appear, by far milder means.

The following account of the mechanism of the two actions in question, vomiting and forced expectoration, will explain the preceding remarks :

1. In *vomiting*, a full inspiration first occurs, which, disturbing the thorax, puts all the smaller expiratory muscles on the stretch, while the abdominal muscles are in a passive state, and the diaphragm is depressed and strongly contracted. Next, the rima glottidis is closed, and all the inspired air being thus retained in the air passages, all the muscles just mentioned are *fixed* in the positions indicated. Thirdly, a sudden contraction of the abdominal muscles occurs ; and the stomach, being thus compressed between them and the previously depressed and fixed diaphragm, its contents are forced up through the œsophagus and pharynx, and the act of emesis is completed. Does the stomach also contract in aid of the abdominal muscles ? It is very nearly, and generally *entirely*, passive in emesis. At least, vomiting has been made to occur, experimentally, in the lower ani-

mals, when a bladder, containing liquid and solid matter, was substituted in place of the stomach, after the latter had been removed.

Here, it will be seen, ejection of any substance from the air passages is impossible, since the glottis is completely closed, and the diaphragm continues depressed, and the thoracic muscles fixed—and of course the lungs cannot be *compressed*—till the first act of emesis is completed. Then follows another deep inspiration, and a second act of vomiting succeeds, as before explained.

2. In *coughing* or *expectoration*, a full inspiration also first occurs, as in the case of vomiting, and the expiratory muscles of the thorax, and the diaphragm become fixed, as in that case already explained. Secondly, the rima glottidis is suddenly opened, and the abdominal muscles instantly contract upon the stomach as before. But the diaphragm immediately relaxing, the stomach carries that muscle upwards against the base of the lungs; which being thus suddenly compressed, the contained air is violently forced up through the trachea and larynx, and thus any solid or fluid substances are expelled through the glottis into the buccal cavity, and the act of expectoration, or coughing, is completed.

Thus the first or preparatory movement to the acts both of vomiting and coughing, the full inspiration, is precisely the same; while the acts themselves have nothing in common, except the contraction of the abdominal muscles.

We have seen that the act of vomiting cannot possibly expel matters from the air passages, because the glottis is closed. A less perfect closure of the cardiac orifice of the stomach occurs, however, during the act of coughing; and, therefore, it sometimes happens that a violent paroxysm of coughing produces a partial evacuation of the stomach (or an act of emesis), at the same time. This is, indeed, very common in whooping-cough, and not very infrequent in phthisis; though frequently in the latter disease, the act of vomiting instantly *succeeds* that of coughing, being produced by the contact of the expectorated matter with the velum or pharynx, which are in a state of high irritation. Some irregular contractions of the diaphragm may also probably occur in this case, and the stomach thus become somewhat compressed in the act of coughing; while, normally, it is scarcely so at all. Vomiting not seldom accompanies the cough produced by the introduction of the caustic solutions upon the sponge-probang into the larynx and trachea, since thus a temporary spasmodic closure of the glottis is produced. We of course, distinguish between these cases and those where the caustic is applied only to the fauces or some part of the pharynx; the vomiting being directly due, in these instances, to the irritation of these parts.

But we will not pursue the subject farther. It is sufficient to have shown that the act of vomiting does not, and cannot, directly, expel any substance from the air passage, through the glottis into the buccal cavity.

But if a quantity of solid contents be forced from the stomach through the œsophagus, must not the mass, from the anatomical relations of the canals, act on the trachea and its contents, while on its way through the other tube? Doubtless, it may produce motion of this tube to some extent —the latter being somewhat proportional to the amount and solidity of the matters ejected, and the force employed to eject them. But if any thing is to be gained in this violent and indirect manner, the same results may be secured by exciting attempts at vomiting (or retching) by titillation of the uvula, or the application of the sponge probang (with or without the caustic solution) low in the pharynx. In this way we might, at least, allow the patient to escape from the mischievous irritating and debilitating effects of the emetic upon the stomach itself; and which are all the more certain to ensue from the well-known difficulty in producing an emetic operation when infantile larnygo-tracheitis is somewhat advanced, and the consequent certainty, almost, that large doses, or violent remedies,* or both, will be administered.

Our reasons will, however, now be apparent for our decided condemnation of emetics frequently repeated in this disease, with a view to remove the false membrane. We consider an emetic proper only at the commencement of the attack, as already explained, and at such other times during the progress of the disease as they may be required, simply to evacuate the stomach,† and believe the practice we are condemning has destroyed many a patient who might have recovered in the absence of such prostrating and perturbating treatment.

Tracheotomy, as subservient to the removal of the false membrane.— Tracheotomy is regarded by those only who remember that death almost always soon follows it, when performed in infantile laryngo-tracheitis, as a most formidable operation. The surgeon, however, of experience, does not apprehend any great risk to his patient from this operation, if performed under ordinarily favorable circumstances; and he very seldom finds a fatal result essentially hastened by it. The truth is, that the operation is usually performed as a *last resort*, when the patient is so nearly moribund that no human agency can prolong life more than a few hours or minutes even—or when the most trifling operation might hasten the fatal issue. If we are ever to form a just appreciation of the value of this operation in the disease under consideration, we must perform it *seasonably*, while the patient still has strength to survive the operation, and also to respond to the new circumstances in which it places him. If the operation for hernia were always delayed till gangrene has ensued, it would be generally decried, and with just as good a reason, we submit, as tracheotomy now is.

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* Sulphate of zinc and of copper are very generally recommended.

† A tea spoon full of alum, dissolved in four ounces of water, is a very certain emetic for a child two years old, provided the stomach needs to be evacuated in the advanced stage of this disease.

We do not mean to say that tracheotomy should be performed, and seasonably, in every case of this disease, as the other operation should be in every case of irreducible strangulated hernia. But we mean to insist that tracheotomy shall be performed *seasonably*, *if at all*, and that thus alone can we ascertain its true value. We mean also to express our conviction that, thus performed, tracheotomy will be found a most valuable part of the treatment of infantile laryngo-tracheitis in many cases in which a false membrane has formed.*

We have implied that tracheotomy is not in itself a formidable operation; and yet, if a more safe and simple procedure than the one usually resorted to can be substituted, it were very desirable. Dr. Marshall Hall has a very simple method. But for the purposes now about to be considered we should prefer the operation recommended by Dr. Batchelder of New York.† He, indeed, proposes to substitute laryngotomy for tracheotomy, but extends his incision downwards through the cricoid cartilage, and also the first ring of the trachea, if required; thus rendering the operation, when required, a *laryngo-tracheotomy*. This operation he has himself seasonably performed some fifteen or twenty times, and has always found it to answer "perfectly well" the purpose for which the opening was made.

We conceive that the operation in question must have in view one or more of the following objects:

1. To prevent immediately fatal consequences from asphyxia, induced by laryngismus.
2. To afford an opening into the trachea, for the admission of air, larger than the rima glottidis, which is now partially filled by the false membrane.
3. To afford an opening through which applications may be made directly to the larnyx, trachea, and even to the bronchial tubes.
4. That the false membrane may be removed through the opening made.

The second and fourth objects only, imply that a false membrane is formed.

1. If we are present during a paroxysm of laryngismus, which we judge must prove fatal, of course the operation is to be performed without delay.

2. A recurrence to the pathology of this disease (August No., p. 98, 1 and 2) will show how little probability there is, after the first two or three days,

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* Trousseau, who has probably operated more times, and with greater success, than any other person, operates earlier than is common with others.

† New York Journal of Medicine, January, 1854.

that the false membrane does not already extend into the trachea, at least, if not into the bronchi. If we operate with this end alone in view, therefore, we shall very probably be disappointed.

3. But we may make an opening for the sake of making applications through it to the larnyx, trachea, and bronchial tubes; and here an entirely new field opens to us. And we hope not to startle those overmuch who shudder at the idea both of the operation and of the probang now so frequently mentioned, if we say that in our opinion cases may occur in which it is justifiable to make an opening into the trachea for the mere purpose of applying the caustic solution and other remedies directly to the seat of the disease, and to the extent required.*

If, for instance, the case be a sthenic one, while from spasm or swelling of the larnyx, or some other cause, it is found impossible to pass the caustic solution through the rima glottidis, though it is very certain that a false membrane will be or has formed, and all of several children of the same family, attacked by the disease, have died of it, in this combination of circumstances, certainly we should feel justified in performing the operation for the object now under consideration.

4. Finally, we may operate in order to remove the false membrane through the opening, though the caustic may have been applied through the natural passages. For we may certainly act to greater advantage after the operation, if we have failed to remove the membrane before it. And now, as in the last case, we shall feel the necessity of applying the caustic solution, in order to *bring* away the membrane, and not wait for it to be discharged through the opening spontaneously.

These we conceive to be the legitimate objects of tracheotomy, when performed in infantile laryngo-tracheitis; and if restricted to the cases in which it is actually required, and seasonably performed, we believe it will prove a powerful means of diminishing the mortality from this disease. We must add, however, that the number of cases otherwise actually requiring it is greatly diminished by the internal application, through the natural passages, which has been so often recommended; and that but few cases in which this can be effectually made, will require the use of the scalpel.

IV. *Means for sustaining the patient's strength.*

If it be recollected that the false membrane formed in infantile laryngo-tracheitis is uniformly detached spontaneously, if the patient's life is sufficiently prolonged (Aug. No. p. 99, 3d), it will seem to be a matter of great importance to sustain the patient's strength, so far as possible, not only by the avoidance of all unnecessary medication, but also by direct means, so far as circumstances will allow. This inference has by no means been sufficiently recognized; as both the heroic treatment and the withdrawal of nourishing aliment, so generally adopted, abundantly prove.

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* See page 202.

We hardly need do more under this head, however, than to call attention to this subject, to make its importance apparent, and to induce the adoption of the means best calculated to secure the object in each particular case. In *asthenic* cases, it is a matter of the utmost importance to continue the use of broths, milk-porridge, wine whey, weak milk-punch, and the like, throughout the disease; to which tonics and stimulants are also to be added as the strength declines. In the treatment of *sthenic* cases, also, it must not be forgotten that infants are very soon prostrated by inanition, as well as by blood-letting and powerful emetics; and while we avoid the latter, we must also see to it that nutriment enough is taken.

We now give a tabular view of the treatment we have recommended for the two forms of this disease. Diphtherite, being regarded as an asthenic laryngo-tracheitis (p. 197, 10th), requires no special attention here.

	Sthenic Laryngo-tracheitis.	*Asthenic Laryngo-tracheitis.*
I. To arrest the inflammatory process, and control the laryngismus.	An emetic; followed by a full dose of calomel, if required.	Do. do.; or pil. hydrargyri, instead of calomel.
	Leeches to throat, or over the sternum; followed by cold applied continuously.	Leeches doubtful. Cold continuously applied.
	Tartrate of antimony; sedative doses, cautiously administered.	Nitrate of potassa.
	Internal application of solution of nitrate of silver.	Do. do.
	Inhalation of aqueous and narcotic vapors.	Do. do.
	Opiates, with caution. Hydrocyanic acid, do. do.	Do. do.
II. To prevent organization of the exuded plasma.	Sponge-probang and caustic solution.	Do. do.
	Expectorants.	Stimulating expectorants.
	Calomel, in small doses.	Turpeth mineral.
	Alkalies.	Do.
	Counter-irritation.	Do.
	Tracheotomy ?	
III. For removing the false membrane when formed.	Continue caustic solution.	Do. do.
	do expectorants.	Do.
	do counter-irritation.	Do.
	do alkalies.	Stimulant alkalies.
	No emetics, or calomel.	Do. do.
	Tracheotomy, *seasonably*, if at all.	Do. do.
IV. To sustain the strength.	Milk-porridge, arrow-root, broth, &c.	Do. do.; also wine whey, milk punch, &c.
	Tonics, if required.	Tonics and stimulants.

Thus we have given expression to our views of the pathology of infantile laryngo-tracheitis, or croup, and of the treatment rationally based upon those views. If, in attempting to simplify the pathology of a subject so very differently understood by different writers, we have committed the error in the opposite direction, of including under the same term pathological conditions which are really, for any practical purpose, different, we heartily regret it. But we can hardly doubt that the attempt will be regarded as having been made in the right direction; and we will be happy to acknowledge our error, when it is shown that our views are inconsistent with the present state of pathological science.

In respect to *treatment*, we have not sought to add new modes—believing the list of remedies already too ample—but rather to appreciate the precise value of the remedies sanctioned by long experience, and above all, to inculcate that caution in the use of them all, which the tender age and the delicacy of the patient demand, and which has too generally been almost entirely forgotten, we think, in the treatment of this disease.

In conclusion, we may add, that the adoption, in practice, for several years, of the principles proposed in the preceding pages, has confirmed their correctness in our estimation; and we might have given cases of our own in illustration, were it not that we should thus have extended this paper beyond the limits we had proposed, and at the same time, perhaps, have somewhat interfered with its logical construction.

Dartmouth College, *Aug.* 1, 1854.

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PART II.—REVIEWS AND BIBLIOGRAPHY.

1. *A Clinical Introduction to the Practice of Auscultation, and other modes of Physical Diagnosis in the Lungs and Heart.* By H. M. Hughes, M. D., M. R. C. P., Assistant Physician to Guy's Hospital, etc.: 12mo. pp. 304. Second American from the second and revised English edition. Blanchard & Lea, Philadelphia, 1854, from John Wiley, New York.

2. *Auscultation and Percussion.* By Dr. Joseph Skoda. Translated, from the fourth edition, by W. O. Markham, M. D., Assistant Physician to St. Mary's Hospital, London; 12mo. pp. 380. Lindsay & Blakiston, Philadelphia, 1854.

Since the publication of the celebrated work of Lænnec, many treatises have appeared on the subject which forms the matter of the books now under consideration. The stethoscope, as an instrument for facilitating a correct diagnosis of the important classes of disease to which the respiratory and circulating systems are liable, has been subjected to a most thorough investigation and strict practical study. Many modifications of its form, and sundry changes in the material used in its manufacture, have been suggested and tried; but the principle of its construction remains the same, experience proving that the more simple the contrivance and uniform the substance employed, the more complete and useful the instrument. Its application has also been extended to other purposes than that for which it was originally designed and proposed, for which, in well practised hands and to thoroughly educated ears, it has proved eminently useful. Some of these may be enumerated in illustration. The determination of the vitality of the fœtus in utero, of its relative position, and of the existence of twins, etc.; the detection of the fluid character, or otherwise, of the contents of tumors or enlargements: *e. g.* in aneurism, abscess, hernia, tympanitis, etc.; the recognition of crepitus in fractures, bursal noises, etc. It thus appears that its utility extends into several departments of medical and surgical science.

For some time after its introduction to the profession, it became most fashionable, and every practitioner was, or at least imagined himself to be, a finished stethoscopist. No diagnosis was ever ventured upon without an appeal to it, and many and most serious were the mistakes committed under the supposed accuracy of its revelations. After a season of great popularity, its reputation began to decline. The older men sensibly enough declared that they had no experience of its use; that it was too late in the day for them to learn the various sounds indicated by it; that it was a tedious and troublesome mode of investigating diseases which they could recognize by a glance, or diagnosticate as correctly by other symptoms. The learner found that it was equally tiresome to acquire a correct knowledge of the respective normal and abnormal sounds, that it required more time to carry on a faithful examination of an individual case, than he could spare from the numerous other calls upon his attention. Both these classes of investigators, profiting by the discovery that mistakes had been committed, at once irrationally condemned the instrument and declared its value to be overrated. Others there are who profess to be able to auscultate more satisfactorily with the ear, the *immediate auscultation* of most writers, than by the intervention of any acoustic apparatus, however simple. This may be very well to say; but all who are *practised* in the use of the instrument, must admit its great utility in defining the more obscure and complicated sounds, as well as its quality of increasing their tone, and its convenience to the practitioner and the patient, in some cases being indispensable from the peculiar attending circumstances. The patient, painstaking, and zealous among the profession, however, those particularly who made a specialty of this method of diagnosis, have learned to place a true value upon its use and indications.

The assistance derived from percussion in forming a correct judgment, and in corroborating the stethoscopic signs, has been long understood and acknowledged, and their combination in practice fortifies many a physician in prescribing for a malady, or in uttering a prognosis. Nor is this the extent of the valuable nature of physical diagnosis. Physiology owes not a little of its present extensive stock of facts and theories to the faithful labors of the earnest diagnostician. The science of life-assurance, founded as it is on the doctrine of probabilities, is mainly indebted, for the successful issue of its practical application, to the knowledge derived from auscultation.

It cannot be denied that, in the study and practice of stethoscopsy there is much to discourage the student and practitioner not mentally and physically endowed for its just appreciation and perfect acquisition. It is essential that a correct knowledge of, and familiarity with, the normal sounds in the healthy body should be acquired, and of these, under the modifying circumstances of age, sex, temperament, configuration, habits, atmospheric influences, mental emotions, position, time of examination, nature and extent of transmitting media, and a careful comparison of both sides in the case of duality of the organs examined.* To conduct carefully and successfully such investigations, there will be requisite, firmness, patience, memory, concentration of the attention, and a well attuned ear, susceptible of the finest modulation of tone, rhythm, and time. And when it is remembered that in the several regions of the thorax, in the normal state, there are eleven constant and some occasional sounds to be heard, we shall be able to appreciate the nature and extent of difficulties which are to be encountered in acquiring a competent knowledge of them; more especially will the difficulty be enhanced where the multiplication of this number by disease, and the modification of the character of each by the condition of the patient, the duration of the disease, and the pathological changes attending it, are to be considered and investigated.

We can account also for very much of the prejudice existing against auscultation in the minds of many Anglo-Saxon students and practitioners in former days, and not a few even at the present day, from the circumstance of the nomenclature employed in definition, even by writers in their own language, being retained in French, as originally given to the profession by Læennec. Thanks to improved educational requirements, and the enlightenment which a freer intercourse between the respective nations has produced, this difficulty has been, to a great extent, removed. It must not be supposed, however, that we think either the original terms of definition perfect, or that the absence of complemental phrases in our own tongue is not very much to be regretted; for in the interpretation which each individual reader may put upon a word, or given form of words, in a foreign language, will depend the value or character he attaches to the phenomenon or circumstance described and indicated; and to him who is ignorant of the language employed, such definitions are worse than useless. Hence the necessity of a current medium of definitive terms in each language, in every department of philosophical and scientific study. This necessity for clear and positive terms, particularly in abstract sciences is well illustrated by the controversial difficulties which have heretofore arisen, and are still frequently springing up in ethics and theology. In both of the books before us we are rejoiced to find the attempt to remove this obstacle to a more intimate acquaintance with the phenomena of auscultation, by the employment of vernacular terms of explanation, Dr. Markham's translation of Skoda's phraseology is happy in this particular.*

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* On this point Skoda further tells us, "The percussion sound and the resistance vary much in the different regions of the thorax and abdomen, when the subjacent organs are in a normal condition. The percussion sound also varies in different individuals over corresponding parts; and the same is true of the phenomena of auscultation." p. 285.

Dr. Hughes's work is an excellent manual for the student. His language is forcible, and his style colloquial; it is written, in fact, much as he would speak while teaching, and is hence, perhaps, not inaptly termed a clinical introduction to the practice. Skoda's work, on the other hand, is a more elaborate one; it labors under the disadvantage of being a translated work, in which, however faithfully accomplished, must still remain those idiomatic peculiarities derivable from the original. We will do the translator the justice to say that he has obviated many of these with great ability and success.

These writers are opposed in their views on several points—a circumstance thus frankly and candidly alluded to by Dr. Hughes in his preface: "Lest it should be supposed that I have unfairly neglected the consideration of the opinions of Skoda, I may state that I have been long acquainted with his views; that I have, recently, carefully examined them, as partially enunciated in the lectures of Dr. Herbert Davies, and more generally propounded in the translation of Dr. Markham. But, as I believe those views (when differing from his contemporaries, and more especially in the very general application of the *laws of consonance* to the chest) to be in many, perhaps in most, respects incorrect, I have not thought it desirable to introduce any

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* Dr. Markham says, "Dr. Latham is the first English author, so far as I am aware, who has endeavored to throw a little Saxon simplicity into the study of auscultation, and to divest it of some of its Gallic exuberances."

particular notice of them, fearing that it might add to the perplexity rather than to the instruction, of the student."

Dr. Hughes gives us six chapters. In the first he enters fully into the necessary qualifications of the student of auscultation, suggests some wholesome cautions as to the conduct and demeanor of the examiner, in the course of which the following admirable rule is emphatically laid down: "*In all examinations, the benefit of the person examined should be the primary consideration.*" After recommending a proper position for the patient, enumerating the divisions of the chest into several regions, he takes up the consideration of the different modes of exploration in diseases of the chest, each of which forms the leading heading of the subsequent chapters, thus:—Inspection, or Ocular Examination; Palpation, or Manual Examination; Percussion, or Examination by Striking; under this heading is included a description of the phenomena elicited in the healthy and diseased conditions; Auscultation, or Examination by the Ear; Immediate and Mediate Auscultation. Here we have a detail of the normal and abnormal sounds in the lungs, heart, and larger vessels—a description of the Stethoscope, etc.

Mensuration or Examination by admeasurement, and Succussion.

As a manual, we can cordially recommend this volume to the student. It will, at least, teach how to set about learning what he ought to know, and what, we have no doubt, he desires to acquire. As to the philosophy of Dr. Hughes's views, he will be better able to appreciate that when he shall have acquired a practical acquaintance with the subject and a greater familiarity with the literature of the subject.

Dr. Skoda's book affords more matter for reflection to the practitioner, and to the student who has already acquired a competent knowledge of the subject. It is a bold and original work, and written with the care and deep thought so characteristic of his countrymen, but is at the same time devoid of excess in theoretical opinions. His style and mode of reasoning are somewhat obscure, but on the whole the reader rises from its perusal with a strong desire to go through it a second time. Dr. Markham tells us, in his preface to the work, that "the critical manner in which Dr. Skoda's theory of the cause of the Bronchophonic voice has been brought before the profession, has certainly not much aided in its propagation." We will not be led into this error, inasmuch as we really have not yet seen any explanation of the phenomenon which appeared to us, *prima facie*, to be more reasonable and logical.

This doctrine of consonance is one the discussion of which will awaken a train of reflection and reasoning, independently of the doctrines of Lænnec, to which it is entirely opposed, which must be productive of great benefit to science, whatever may be the result in as far as the proposition itself is concerned.

It is impossible, in the narrow compass to which we are necessarily restricted in this periodical, to enter into a very lengthened or detailed consideration of such an elaborate work as the one before us: small as it is, it contains a large fund of invaluable facts; and if we only exercise an ordinary discretionary prudence, we may soon distinguish the mere theoretical parts from those which are essentially practical. The profession owes much to Dr. Markham for his admirable translation, and also for the complete résumé of Skoda's particular views contained in the preface of the work, by which the reader becomes forewarned against what may be thought by some to be heterodoxy. ‡

Ueber Staar und Staaroperationen, nebst andern Beobachtungen und Erfahrungen aus seines Vaters, Dr. Fried. Jæger, *K. K. Prof.*, *und aus der eigenen ophthalmologischen Praxis von* Eduard Jæger, Dr. Med. Chir. Mag. der Augenheilkunde Geb. Docenten der Augenheilkunde an der Vien Universität; Mitgl. der Med. Facultat der K. K. Gesellschaft der Aerzte zu Vien, mit 10 lith. Tafeln. L. W. Seidl. Vienna, 1854.

(*On Cataract and Operations for Cataract, with the observations and results of the ophthalmic practice of his father*, Prof. Frederick Jæger, *and his own*, by Edward Jæger, M. D., &c.)

The compiled observations of a long standing practice gain in value if made on a scientific base, and must be the more welcome the higher the authority from which they come. Every contribution made in a scientific point of view must be favorably received, as comparatively but a few medical men engaged in extensive practice have time to devote themselves to the publication of their experience in a manner that will be useful to practice and theory. Generally, the descriptions are made in a way that proves the possibility of a success if imitated, but does not vouch for it, as empirical facts are gathered together which, even if affording opportunity for speculations on these, are still too little convincing to be reliable. On the other hand, from single facts theories are deduced which go far beyond the mark aimed at by them. But seldom one meets an adequate distribution of facts, and correct theoretical views derived from them.

The little volume before us answers this purpose admirably; it realizes the expectations everybody familiar with the name of Jæger naturally entertains.

Cataract and its operations are first considered. Jæger attributes the most frequent cause of the formation of cataract to a morbid change in the process of nutrition of the crystalline lens, in which the crystalline fibre divides in a molecular mass, setting free a fatty substance which is no longer serviceable for the purpose of transmission of rays of light; various operations and cases are then briefly mentioned. New instruments, and chiefly eye specula, are dwelt upon and fairly explained. The examination of the faculty of vision in sound individuals and patients, concludes this interesting publication. Want of space prevents us from enlarging upon its contents, but the following tables will show the value of it, and do not require any comment:

Synopsis of all Patients Attended and Operations Performed.

Year.	Number of Patients.	Internal.	Eye Patients.	Sum of operations.
1849	2,475	367	2,108	204
1850	3,509	441	3,068	243
1851	2,988	355	2,633	243
1852	3,291	391	2,900	271
	12,263	1,554	10,709	961

The different modes for operating used in the four years give the following result:

In the operation for Discission, one completely unfavorable case in nine operations. Eleven per cent.

In the operation for Reclination, one completely unfavorable case in ten operations. Ten per cent.

In the operation for extraction one completely unfavorable case in sixteen operations. Six and a quarter per cent.

In the operation of Partial Extraction one completely unfavorable case in twenty-five operations. Four per cent.

The streaked scale (strichscale), introduced by Edward Jæger for the purpose of testing the faculty of vision, consists of a scale of black lines on white ground, diminishing in a certain proportion in size and relative distance. According to Professer Stampfer, of Vienna, who originally devised this scale for the purpose of testing telescopes, an eye which perceives eighty lines of the scale, or rather the distance between the two lines, is to be considered a good one; very good ones distinguish three to five lines further; the maximum is six to seven lines, above the border of this scale, which is to be held in the hand of the patient or individual to be examined at equal height with his eyes at a certain distance. We tested the efficacy of this scale, chiefly for determining approximately the improvement in, or the decrease of, the accommodation of sight in different eye-diseases.

The book under consideration gives credit to the father and does honor to the son. Although the spirit of the father pervades the whole, the original additions of the son give it the stamp of modern speculative ophthalmic surgery. A perusal of it will well repay the reader. G.

A Universal Formulary; containing the methods of preparing and administering officinal and other medicines. The whole adapted to physicians and pharmaceutists. By R. EGLESFELD GRIFFITH, M. D.; a new edition, carefully revised and much extended, by R. P. THOMAS, M. D. Philadelphia: Blanchard & Lea. From O. A. Roorbach. pp. 650.

A formulary is not a very attractive book, neither is it one which should be read continuously; and still, when well arranged, it is very useful. So many valuable suggestions are obtained by the study of approved formulæ that, though they are not followed exactly, a beneficial effect is produced on the method of prescribing: to those who are obliged to act as their own pharmaceutists, precise directions for manipulating are a great convenience. Not only are the usual medical formulæ contained in this book, but dietetic preparations are given somewhat fully, with directions for making anatomical and preservative injections, while we observe many other compounds are described which have no particular connection with medicine. The book is a good one, in our opinion; and as such we recommend it to the profession.

The Half-Yearly Abstract of the Medical Sciences; being a practical and analytical digest of the contents of the principal British and continental medical works published in the preceding six months; together with a series of critical reports on the progress of medicine and the collateral sciences during the same period. Edited by W. H. RANKING, M. D., &c., and C. B. RADCLIFF, M. D., &c. Volume 19, January to June, 1854. London: John Churchill.

Reprint of the same. Philadelphia: Lindsay & Blakiston.

"Ranking's Abstract" is no doubt familiar to all our readers, or if not, the full title quoted above gives a very good idea of its purpose and plan. The very fact of its being a *digest* forbids an analysis of its contents, and we cannot do more or less than to say that the number is a very valuable one, quite as much so as any of the preceding. Of these editions, the London is superior to the republication, being better printed, on better paper, and bound in cloth. Its price is of course greater; but whoever values his eyesight and wishes for comfort in reading a book, would willingly pay the difference. Still, in these days of cheap literature, the contents being the same, the republication will doubtless meet with the greatest sale.

PART III.—CHRONICLE OF MEDICAL PROGRESS.

[The abstracts and translations found under this title are made expressly for the American Medical Monthly.]

On Crystallization of the Blood.—By Dr. W. Berlin.

The author states, that before Funke and Kölliker, Donders had found crystals in blood from the intestinal canal of leeches, which had drawn some days before, and that he still preserves the preparations of them. The author also chose this method of investigating blood-crystallization, and took especial care that water did not come in contact with the blood in the intestine of the animals. In the intestine of the leech, blood gradually forms a tough, sticky mass, and assumes a brown-red color. In this case, the elements having form cling together, so that, without reägents, none of them can be distinguished, except the colorless blood-corpuscles, which also after a certain time become granular and disappear. Blood thus colored adheres to the glass, the blood-corpuscles still moving about or set in motion by reägents, have already lost much of their original color; that is, their contents have already, in greater part, escaped into the cellular substance. After six or seven days, the first crystals usually, but not always, show themselves in the blood; the number of them then continues to increase. The crystals, identical with the blood-crystals of authors, have a brown-red color, increasing with their length and thickness. Very small ones, which mostly represent four-sided columellæ, are so little colored, that one would almost take them to be colorless.

The majority of the crystals are long, somewhat broad columns and columellæ, with two broad and two narrow sides. Length, height, and breadth, vary to an uncommon degree; we find, therefore, in part, long, narrow, thin columellæ, in part tables, even forms like obliquely displaced cubes. The columellæ are not always right-angled; the principal axis also stands somewhat oblique. The corners in all these forms, as in the cholesterine crystals, are found defective. Funke refers the crystals either to the rhombic or to the monoklinohedric system; but many belong also to the monoklinic, or klinohedric. Frequently, also, the crystals, sometimes the large ones, appear as if they had foramina. Perhaps these apparent openings are nothing more than blood-cells decolored, robbed of their contents.

The crystals are very perishable, but the older crystals appear to be able to oppose greater resistance to the influence of air and fluids. Therefore, the investigation is best undertaken in leeches which have already drawn five weeks, or more, previous.

The medium in which the crystals lie, under the microscope, is by no means uncolored ; but the color is less in intensity than that of the crystals, and is mostly violet. The border of the viscid preparation dries in the air too quickly. The air, or its oxygen, quickly changes the color of this part into red, and, in consequence, the form of the same does not remain wholly unchanged. Hence the statement of Lehmann is, in some measure, explained, that the crystals become, under water, violet, or even reddish, more rarely, colorless. A second difficulty in the investigation arises from the consistence of the blood, on account of which the fluid applied as a reägent can seldom penetrate the whole mass.

The question to be determined now, was this : Do the crystals in the blood consist of materials which are already proper to the blood, and are they of the organic or inorganic principles of the blood ? Of the inorganic, those insoluble in water (carbonate of lime, carbonate of magnesia, phosphate of lime, phosphate of magnesia) are excluded, partly on account of want of effervescence with acids, partly by direct investigation made upon them; consequently, only those salts soluble in water, are to be taken into consideration. When leech blood was dried between two glass plates, and the evaporation thereby favored, crystals were formed which were not yet present in the intestine of the animal. These crystals, however, are not so regular and durable as those which form in the leech, with slower diminution of the water. If removal of the water favors the crystallization, so it is very naturally found, that, through the addition of water, the crystals disappear. This disappearance of the crystals in water, the author considers by no means a real solution, because motion of the glass plates, and other mechanical influences, so easily destroy the crystals; and, then, because the crystals are not again regenerated after the water is evaporated. Therefore is it also not incomprehensible, that Kölliker's crystals were not dissolved in water. This is simply to be ascribed to the form, and the peculiar circumstances, but not to the material.

The crystals, therefore, must contain an organic or a mixed principle. Albumen, fibrine, fat, occur in the intercellular substance of the blood. Fat is soluble in alcohol and ether ; not so the blood-crystals. But these, again, cannot consist of albumen or fibrine (colored by hæmatine), as the following reactions show :

1. Concentrated carbonate of soda dissolves the crystals, with a high red color, playing into orange ; the form of the crystals is partially, yet indistinctly, to be recognised; the blood-corpuscles, which become visible, are colored brown-yellow. At other times, and with older crystals, the violet-red passes through deep-red to green ; at the borders of the preparation the green parts become already again darker; some crystals are yet indistinctly recognised as red points. With a dilute solution of soda the crystals become, at the border of the preparation, brown-yellow, but others

deep-red, and they lose their regular contour. In these reactions the author recognises those again, which Virchow obtained from his hæmotoidine crystals, and the preceding pigment forms. Lehmann, also, saw the clear red color pass into dirty yellow, from the effect of caustic potash.

2. Ammonium dissolves the crystals with a peach-blossom color; they become shapeless. This, also, corresponds perfectly with Lehmann's results.

3. By nitric acid the color becomes a clear yellow-brown, then black, brown-black, chestnut brown, finally, dirty dark green. Lehmann also saw the crystals become dark, even black, by cold concentrated nitric acid.

4. Sulphuric acid dissolves the crystals, piece by piece, with a brown color, yet so that after some time the form of the crystals, especially of the greater, appears again as a flat spot, and then, later, becomes indistinct.

5. Nitric acid produces the same effect; but red and green precede the dirty brown.

6. Concentrated acetic acid dissolves the crystals peach-blossom red, which later passes to yellow-brown. At other times the crystals become thereby clear yellow, and are seen with difficulty.

7. Arsenious acid is especially appropriate to isolate the blood-cells, and to bring their alterations to view. The crystals remain a clear violet-red. If the preparation is moved, then the crystals disappear, as through water.

From these reactions, the author concludes, that the crystals are neither albumen nor fibrine (that crystals could also be obtained frem defibrinated blood, Kunde already found), and considers their substance as hæmatine, whilst he asserts, in view of the large quantity (7 per cent.) in which Lehmann found them in the blood, that we have not yet learned to separate the hæmatine completely from the blood. Alcohol, containing sulphuric acid, or ammonia, will also quickly dissolve the crystals. The earlier exhibited hæmatine may be, surely, a different body from the crystal substance, it containing more iron; but hæmatine does not occur as such in the blood-corpuscles, and the crystal substance would be much more properly designated by this name. If, now, hæmatine is contained in the crystals, the latter cannot be a product of decomposition. It is supposable, on the other hand, that they consist of a combination of an organic and an inorganic material.

The authors who named the blood-crystals hæmato-globuline, have not yet proved that these consist of the two substances implied by the name. The author's view approximates that of Kölliker, who maintains a relationship of the crystals with hæmatine and hæmatoidine, only the author claims still more than mere relationship.

The form of the crystals, their manner of origin, and their reactions, proclaim a conformity with hæmatoidine, not merely a relationship. The form is almost the same[?]. The size of the artificial and the pathological crystals may differ very much; but this is not conclusive against their identity, since, also, the size of the crystals in extravasations is subject to great differences. Differences of reaction occur as well with the different hæmatoidine crystals, as they were not long since said to do with the different hæmatine crystals. We must, therefore, needs admit the identity of hæmatine and hæmatoidine [?].

The author asks, farther, whether the perishableness of the blood-corpuscles has any connection with the origin of the crystals. The phenomena of the formation of crystals express the contrary; those do not exclude the presence of blood-corpuscles, and they become visible upon the addition of a little arsenious acid. The blood-corpuscles evidently diminish in circumference as their contents escape. Blood which after some weeks is pressed out of the anus of leeches, still contains blood-corpuscles. The escape of the contents, and the destruction of the cell-membrane, are, therefore, independent of one another; we must therefore consider the first as a physiological process.

In the formation of bile in the liver, the destruction of the membrane of the blood-corpuscle is a yet unproven hypothesis. The same is true of the hæmatoidine crystals in extravasations. According to the author, the proof is wanting of a destruction of the blood-corpuscles, which previously contained the now crystallized material. There is, at the basis of this, a perverted generalizing of the coloring matter of the blood with the red blood-corpuscles. Thus they speak of diminution of the red blood-corpuscles in the chlorotic, meaning only diminution of the hæmatine. Those blood-cells whose contents are less, or almost not at all colored red, belong, notwithstanding, to those which we are accustomed to designate as red blood-corpuscles.

In connection with this subject, stands also the question concerning the cells containing blood-corpuscles, of the occurrence of which the author, like Donders, could not satisfy himself. The author thinks that the corpuscles and these cells may be frequently nothing else but hæmatoidine or hæmatine crystals.—*Schmidt's Jahrbücher*, *June*, 1854.

On the Doctrine of the Secretion-cell.—By H. LUSCHKA.

It has not been hitherto admitted that any special means was provided for the formation of the cerebro-spinal fluid, of the fluidity of the pleura, of the pericardium, of the peritoneum, or for the production of the aqueous humor, but that these principles arose from simple exudation of the fluids of the blood through the vascular walls. The physical and chemical differences of these fluids from the liquor sanguinis have, as has been hitherto supposed, their origin in the degree of penetrability of the capillary walls, in the rapidity of the motion of the blood in them, in the physical and chemical property of the blood itself streaming through the capillaries. But, together with many other doubts which this supposed method of formation calls forth, the point is especially difficult to explain why the measure of the formation of these fluids in the normal condition is so limited while nothing stands in the way of a farther transudation; wherefore, for example, the vessels of the pericardium, of the pleura, &c., do not regularly deposit as much as can generally have room in these cavities according to the measure of the distensibility of their walls. It is much more probable, *a priori*, that in the formation of the so-called normal transudations, a law is in operation based on the metamorphosis of special formal elements, which not only governs the quality, but also the quantity estimated for a definite time.

We can best recognise the first formation of the formal elements generally and the development of the secretion-cells in particular, in the glands for the secretion of the gastric juice in animals just killed. These glands represent here principally simple utricles provided with dilated, knob-form dependences; the inner surface of the structureless basement membrane is lined with a cylinder epithelium; the half turned towards the base of the utricle is the laboratory of the stomach-cell formation (Labzellenbildung). Here is found as the lowest, even the first formation (protoplasm) proceeding from the homogeneous blastema, an extremely fine, granular molecular mass. Together with the elementary granules are exhibited larger, sparsely granulated corpuscles, measuring 0.006 of a millimeter in diameter, roundish, or perfectly round nuclei. As in the plastic exudation, so also in the contents of the gastric glands, the protoplasm is frequently arranged in little masses or flocks, in which lie, at various distances, roundish corpuscles with an abrupt and dark contour, the nuclei of the future cells. In these little masses and flocks arises a sort of furrowing process, by which the fine granular substance is separated into roundish portions, which surround the nuclei in the beginning as a tender, loose substance, but later, whilst the bodies thus formed become luxuriant, increase to a thicker and denser cortical substance with defined limits. These are, in the beginning, not yet enclosed by structureless envelops as cell-membranes; some time after the deposition of the proto-plasmic mass about the nucleus, a formal and chemical separation first occurs. Whilst the outermost layer mollifies to a structureless membrane, the rest of the mass, consisting of the nucleus and a variously altered molecular substance, becomes enclosed by this as a content. The cell thus formed now becomes an organ of secretion. From the molecular mass and from the nucleus, under a gradual homogenesic and fluidifying process, arise the constituents peculiar to the secretion, which lastly become free by the bursting or dissolution of the cell-envelope. The cell becomes thereby larger, transparent, clear as water, having a very delicate contour. As the fluidification gradually progresses from the periphery to the centre, so the nucleus is generally the last constituent fluidified.

The cerebro-spinal fluid is formed by a similar process. The so-called *ependyma ventriculorum*, for example, does not stand in connection with the arachnoidea, but represents an independent formation. Upon examination of the ependyma, we find firstly an extremely delicate fibrous layer, composed merely of fibrillæ of cellular tissue, lying thickly upon the medullary substance of the brain; upon it lies a homogeneous, perfectly transparent lamella consisting of structureless cellular substance, which at the same time is the seat of a simple layer of a plate-epithelium. In the normal condition are found, in this extremely thin layer of cellular substance, separable from the medulla only by maceration, very few capillary vessels which therefore can only secrete the nutritive fluid, and not also the cerebro-spinal liquor. The source of the latter fluid is very different. In the cerebral ventricles lie the choroid plexus, structures peculiarly arranged and remarkable for their great vascular richness. Upon the surface of these we see, beneath the microscope, numberless papillar or fringe-like eminences scarcely $\frac{1}{12}$ of a millimetre in height. These eminences convey fine terminal blood-vessels in all imaginable combinations of tortuosity, which, like the coarser vessels, lie in a superstructure consisting partly of bundle-form, partly of homogeneous cellular substance. The surface of the tuft of capillary vessels exhibits a manifold epithelium intricately laminated, which is so massive, specially at those fringe-like prolongations, that it mounts far above the vessels and the fundamental layer of cellular tissue. This massiveness is so much the more striking, as the epithelial layer of the ventricular walls is single; therefore, also, as well as on account of the layer protected in and for itself, this epithelial layer will not have the importance of a protective means.

The epithelium of the choroid plexus of mammalia and birds just killed, consists in its deepest layers of a very fine, granular, molecular mass and numerous roundish, delicately granulated nuclei, the superior strata consist predominantly of partly polygonal, partly roundish cells, which without exception possess a nucleus, and are more or less granulated. The uppermost layer lining the free surface of the choroid plexus, contains variously appearing constituents, but which may be recognized merely as successions of the finely granulated epithelial plate containing nuclei. Together with the plates are also found, in all possible transitions, sparsely granulated spherical bodies, always with a nucleus; spherical, shining cells with a very delicate contour, containing a nucleus, but otherwise homogeneous; little vesicles, which no longer contain any corporeal element, by far the most have become larger and of a vitreous transparency, with an extremely delicate, structureless wall. Such pellucid cells we often see projecting far beyond the border of the object, and scarcely raised; they are frequently so transparent, their contour so delicate, that they can be recognized only by a proper illumination. Not seldom we observe how such a vesicle distends and finally bursts or dissolves; how from it issue smaller and larger, clear drops, like fluid albumen, which gradually mingle with the water applied to the object; how the cell thereby leaves behind no remnants, that is, is perfectly dissolved, or leaves remaining only a very fine membranous coagulum. The liquefaction, or breaking up of these cells proceeds very rapidly; we find, therefore, a longer time after death and in the corpses of men, no trace of this process. By no means are all the cells of the choroid plexus employed in the formation of the cerebro-spinal fluid through the metamorphosis just indicated, but many become the laboratories of fat. Perhaps the fat first occurs in the cells robbed of their normal contents, since it does not follow the destruction of the envelopes. The action appears to be similar to that in the hepatic cells of adults, of which a certain number are very regularly accustomed to be the depositories of free fat.

The fluid of the pleura, of the peritoneum, of the pericardium, is normally during life so extraordinarily small that it just suffices to keep the surfaces moist, smooth, and shining. The serous fluid also in these sacks proceeds from cells of the epithelial lining. Together with the epithelial plates are found cells which sometimes even without the addition of water, sometimes first after this, are roundish transparent, soft, deliquescent, whilst plates, lying immediately by the side of them, exhibit none of these properties. Such are the cells which by their deliquescence preserve the free surface of these serous membranes moist and shining. The deliquescency of these cells makes it explicable why we so frequently find places in serous membranes, which are destitute of an epithelium,—even because the secretion cells which collect there have been broken up, whilst their places are not yet supplied; this is also the reason that we find the fully developed cells only in animals just killed, but in human corpses, only the earlier stages of development. Most of the secretion cells of the membranes in question proceed from epithelial plates, which are transformed to spherical bodies, lose thereby their fine granular quality, and finally, also, the nucleus, and at last become glass-clear, homogeneous, transparent vesicles. It is probable that already, in the first processes of the formation of the epithelial cells of the serous membranes, some have the office of protecting plates, others of secreting structures. Perhaps, also, the most important office of the epithelium of the serous membranes, does not consist so much in forming a protective covering, as in serving the processes of secretion; and it is supposable that most of the cells are not transformed into an apparatus of secretion, but disappear metamorphosed in another manner.

The explanation of the author, according to which the constituents hitherto considered as epithelial structures have the importance of secretion cells, finds in other parts of the body a powerful support. It has been ascertained that the contents of the cylinder cells of the intestine is mucus, and that the mucous lining of the stomach, so to speak, consists merely of the contents of ruptured epithelial cells (Kölliker).

The cylinder cells of the stomach, according to Todd and Bowman, are filled with a transparent mucus, which flows out at their free end through a sort of dehiscence. Upon the foreskin of the clitoris, as well as upon that of the penis, the preputial unguent arises from the transformation of the epidermal plates into a yellowish, fine, granular mass, having a peculiar smell.

As after the formation of other formal constituents from the sanguine fluid, there still remains a fluid which moistens these constituents in most of the tissues, as a so-called animal water, so also there remains, as a remnant of the blastema of the epithelial cells of serous membranes, a fluid which, however, does not serve to moisten, but rather as a menstruum of the secretion cells. We must therefore define the serous fluid as "liquified secretion cells, animal water."

The *aqueous humor* is formed after the manner of the cerebro-spinal fluid and the fluids of the serous membranes, from the cells lining the anterior chambers of the eye.—*Schmidt's Jahrbücher*, *May*, 1854.

The formation and diffusion of Cancer Cells in the neighborhood of Cancer, and their importance in an operation. By J. L. C. SCHRÖDER VAN DER KOLK.

As long ago as 1847, in the transactions of the Utrecht Society in relation to the origin, development, and diffusion of cancer, the author communicated the observation, that in the parts surrounding a cancerous tumor, at times somewhat widely diffused, in the tissues which appear to the naked eye still perfectly healthy, small cells arise, which increase in size and unite in groups as you approach the tumor. These investigations have been since prosecuted, especially upon labial or epithelial cancer, which is especially adapted thereto. In such a case, if we examine microscopically the bordering parts, apparently healthy, we find there in various quantity, according as the part is more remote from the cancer, small cells and nuclei, and finally a granular substance and fat granules between the healthy tissue. Many times we see near one another the transition from nuclei, about which a cell-membrane is yet scarcely commenced, to perfectly developed epithelium cells. With a strong magnifying power we see also the transition of the granular substance and of the nuclei into cells, and how a soft, more or less granular substance is placed about the nuclei, so that a cell arises. Mostly, however, the nucleus lies already in the middle of the cell. The perfect cells, also, still show granular substance in the interior. The nuclei and cells diffuse themselves especially along the cellular tissue between the muscular fibres; but also upon the latter themselves occur nuclei and scattered cells. In other places, merely granular substance shows itself, and the first nucleal formation among the cellular tissue; between them are fat-granules, which are clearly distinguished, by their dark contours, from the little nuclei contained in the formation.

An alteration in the muscular fibres is perceived with difficulty. If they are even already covered with nuclei and small cells, yet, by proper examination, we still recognize the horizontal stripes. At many points, the latter seem really to disappear, and the muscular fibres have a more fibrous appearance. But, in particular cases, a dissolution or degeneration of the muscular fibres may be recognized, so that these fall into horizontally separated elements. Fat granules are then interspersed, as if the muscular fibres underwent the fatty transformation. When the muscular fibres are wholly covered with nuclei, so that they can be scarcely recognized in a partial manner, they appear to be thinner; at least, they are more or less supplanted by the cell and nucleus formation in the interjacent cellular tissue. In the nerves, a degeneration cannot with certainty be detected in labial cancer, Even if the nervous bundles are wholly surrounded with epithelium cells. yet in the neurolemma no trace of degeneration is exhibited. Only at particular points are, at times, nuclei and small cells perceptible between the nervous tubes, but far more sparingly than between the muscular fibres. In two instances, single nerve-tubes appeared to run off into the cellular tissue, covered with epithelium cells. In other cases of cancer, on the other hand, we find degeneration of the nerves appearing later. Also in the follicles of the beard, and in the sebaceous glands, an unusual number of epithelium cells and nuclei occurs, through which all parts become supplanted, and finally degenerate through fat-metamorphosis and fall into dissolution.

The cause is yet unknown of that active cell-formation through which, in the humors of the parenchyma of yet healthy parts, new cells appear continually to arise from small nuclei and fat-granules, which more and more present themselves as epithelium cells. A change of substance and a transformation, however, certainly take place between these cells and the interstitial fluidity, so that the fluidity existing between the cells of the tumor contains thereby other constituents than the parenchymal fluidity of the bordering healthy parts. But both kinds of fluidity now flow together in the bordering parts, and commingle; and hence it is easily explicable, that in the surrounding tissues the same nuclei and cells arise as in the tumor itself. The diffusion of the parenchymal fluidity, along the course of the cellular tissue, among all parts, explains why the new nuclear and cell formation follows exactly the same course between the muscles and other parts. But these parts resist for a long time the pressure of the new formations, and with the naked eye we yet perceive no alterations in them when the microscope already shows the cell formation.

The importance of these cell formations, in operative cases, is subject to no doubt. Thus Prof. Suermann wished a microscopic investigation of an extirpated lip, concerning the ulcerative or cancerous nature of which certainty was desired. The formation from epithelium cells left no doubt as to its cancerous nature. When fine lamellæ of the cut edges of the extirpated piece were brought under the microscope, granules, nuclei, and already developed epithelium cells were to be seen; from whence it was concluded, that beginnings of the progressive evil might also be contained in the unextirpated parts of the lip, although the section was carried from 1½—2′′′ distance from the real tumor. A return of the mischief was therefore to be feared. Notwithstanding the rapid and favorable healing of the wound, within three months new growths arose in the lip, which, after frightful destruction, finally produced a fatal termination.

The author has also of late, in several cases of extirpation of labial cancer, found nuclei and epithelium cells in the cut edges; the brevity, however, of the time passed since the operation, has thus far determined no judgment as to the result. A solution of these epithelium cells, through the inflammation following the operation, is hardly supposable, and, at times, the wound from the operation is accustomed to heal by the first intention. Of a solution through suppuration, there cannot be a question. It will depend upon the degree of development of the remaining cells, upon the degree of the subsequent irritation, upon the afflux of fluids and the change of substance thereby effected, whether these cells begin to develope themselves anew after the healing of the wound.

It is farther to be considered, that the degenerated parenchymal fluidity not only advances slowly in the surrounding parts, and induces ulceration, it is also taken up by the lymphatic vessels, and similar growths arise in remote parts. This occurs especially in true cancer, but it has also been observed in epithelial cancer. Donders related a case of labial cancer to the author, in which the glands of the throat and larynx were swollen and filled with epithelial cells. A diffusion of epithelial cells has also been observed by Lebert, Bennett, Hannover. It may seem doubtful, whether in such cases of diffusion of epithelial cells, we should admit merely a chemical alteration of the infected and absorbed parenchymal fluidity, or a penetration of fine nuclei and cells into the lymphatic vessels. The altered parenchymal fluidity is, however, more probable, since we see that cancer cells may be found even in a structureless membrane enveloping the muscular fibres, the sarcolemma, through which nuclei do not penetrate. In a case of epithelial cancer of the tongue, the author found not merely epithelial cells deep at the root of the tongue between the muscular fibres, but also a cancerous tumor in the throat, which had passed into open cancer and contained common cancer cells without epithelial cells; which would show that in epithelioma, from absorption of parenchymal fluidity, many times general infection also, and secondary cancer cells of a different character, may be formed. Lebert and Hannover deny that epithelial cancer can pass into true cancer, and that one form induces another; therefore, when carcinoma follows upon epithelioma, Hannover admits only a combination of the two forms. According to Bennet, on the other hand, the epithelium-cells, at times the young ones, can take on the character of true cancer cells. It is also a question, whether parenchymal fluidity from an epithelioma may not be altered by the lymphatic vessels, and perhaps, also, by the blood-vessels, in such manner that it, elsewhere, for example in the glands, may give rise to true cancer cells, although, in other circumstances, epithelial cells might be formed. The origin of true cancer in epithelioma labii can scarcely be otherwise explained. Schrant is also of the opinion, that true cancer may arise from epithelioma.

In common cancer and in medullary sarcoma, the cells are diffused in like manner around the tumor, as in epithelioma, while the parenchymal fluidity also induces the cell formation. This was clearly shown in a medullary fungus upon the leg of a woman of eighty years, by which the gastrocnemius had been, for the most part, destroyed. Under the microscope, it was seen that the primitive muscular bundles had wholly lost their structure in the parts most affected; the form of the fibres could still be seen, but only a mass of nuclei were distinguishable, ranked more or less lengthwise, one after another, and inclosed in the unaltered sarcolemma. In other places, the primitive muscular bundles were yet remaining, and had also their horizontal stripes, but they were transparent, and beneath the sarcolemma covered with cells and permeated by fat droplets. Finally, at many points the primitive bundles had undergone the following important alteration: the fibres lay in their sarcolemma transformed into longer or shorter fibre cells, here thickly upon one another, here again in less number, and there appeared to be displayed a succession of rows of nuclei and cells, and fibre cells. Some cells also lay without upon the sarcolemma. Hence it follows, that the pathological parenchymal fluidity may also exude through the sarcolemma, in which case the same cell-formation takes place within this sheath as, earlier, in the surrounding cellular tissue. The parenchymal fluidity must also suffer such an alteration under the influence of the cancer cells, that it becomes everywhere adapted to the production of like cells and nuclei. Through the formation of such cells within the sheath, the nutrition of the muscular fibre becomes disturbed; it separates into long, extended portions, which resemble the involuntary muscular fibres, and is at last wholly destroyed. The sarcolemma appears to resist a long time. Bennet has also, in part, observed and described these alterations of the muscular fibres.

The cancer cells also affect the nerves in an important manner. The condition of the fibular nerve, in the above-mentioned case, furnished among others a striking example. In the parts suffering most, no primitive fibres were longer to be distinguished, the nerve appeared, in consequence of atrophy of the nerve-tubes, to consist only of cellular tissue. Bennet has also observed the disappearance of the nerve-fibres.

The same diffusion of cancer cells, the author has also observed in the interior parts of the body. This formation of cancer cells can even be extended through the walls of the blood-vessels, and, at times, of the veins. In fungus medullaris of the liver, and also of the stomach, a portion of the cancerous mass was found in the cavity of the portal vein, where it might extend itself even to the smaller branches, without being surrounded by a membrane. The author here takes the opportunity to recall an opinion expressed by him long since, and confirmed by manifold recent investigations, namely, that in fibrous tumor and in carcinoma, we can fill with injections only fine capillary arteries, and that no veins appear to occur therein, which are in communication with the other veins. He possesses many preparations, in which the healthy parts about the cancer, are colored deep blue by the numerous veins, while the tumor itself is colored wholly red, only by arterial capillaries. The blood in cancer appears to return to the arteries, so that also a new capillary net-work arises between the veins, similar to the portal system between the arterial system. Upon further extension of the tumor, veins may become included and apparently pass through the cancer; but these are clearly older, larger veins. In the meantime, the finer veins appear to be destroyed or obliterated; for, in cancer of the stomach, we no longer find any capillary veins in the parts where they must have been formerly contained.

From what has been hitherto said, it is clear that when once an epithelioma, or any other cancer, is formed and attains a certain maturity or development, the diffusion of the evil takes place, in so far as new cells are constantly formed from nuclei in the parenchymal fluidity of the contiguous parts. Many times the nuclei are multiplied in a cell already formed;

these nuclei then become cells, and there arises a maternal cell, which at length bursts, so that the inclosed cells can issue free. This latter, however, appears only to happen in carcinoma or medullary cancer, not in epithelioma. The parenchymal fluidity must also acquire the property of forming homogenous cancer cells through an interchange of constituents, which must necessarily take place between the already-formed cancer cells and this fluidity; the diffusion of this fluidity in the surrounding parts, is the cause of the local diffusion of cancer. The surrounding parts not seldom succumb to the cancer; but between, and in them, are developed cancer cells, whereby the other tissues become broken up and disappear.

It has been supposed, that the destruction or the disappearance of the surrounding parts was chiefly the result of the pressure suffered by these parts from the increasing cancerous tumor. But this is not so. The altered parenchymal fluidity calls forth at first in the cellular tissue, afterwards also in the textural parts themselves, the process of cell-formation, in the muscular fibres, in the nerve-tubes, etc. At the same time an abundant formation of fat takes place, through which the healthy constituents appear to become more and more broken up. They are, therefore, much less destroyed by pressure than by defective nutrition. But the pathological parenchymal fluidity is diffused not merely in the immediate neighborhood of the cancerous tumor, it is also conducted by the lymphatic vessels to the nearest glands, as the above-mentioned cases show. In medullary sarcoma of the liver, or of the stomach, the author also several times saw the lymphatic vessels as thick white cords running along the sternum, and they could be traced to the likewise swollen thoracic duct. The contents of these distended lymphatic vessels corresponded perfectly with the cells of the medullary sarcoma; the pathological parenchymal fluidity was also carried by them into the blood and throughout the body. But this absorption probably did not take place merely through the lymphatic vessels, but also through capillaries and veins which were washed by the parenchymal fluidity. If this absorption has been in sufficient quantity, then follows a secondary formation of cancer cells, and an outbreak of cancer in other parts.

Remarkable was a case of cancer of the tongue, which had destroyed the whole left half of the organ. The patient died suddenly from a profuse hæmorrhage, the result of laceration of the ranine artery while eating. This artery, in most of its course, was changed into a dark band, and the lingual nerve, also, where it entered the cancer, was much thickened, and further along a black slimy strip, which had been seen during the lifetime of the patient, lying in the mouth. On the right side, the nerves were yet apparently healthy; but in the lingualis, and still more in the hypoglossus, were found little inequalities, as if tubercles had been developed in the interior. In the last-named nerve, also, upon section, cancer cells actually showed themselves, and partial atrophy of the nerve-tubes. A direct penetration of the parenchymal fluidity into this diseased hypoglossus, is quite improbable; a secondary cell-formation took place here, through general infection of the fluids. Inflammation or suppuration of the surrounding parts does not easily affect the nerves; cancer, on the other hand, appears easily to produce disturbances in them. In a case, for example, which the author examined, the whole ischiatic nerve was destroyed at its exit from the os sacrum, and no longer in connection with the inferior parts. The burning, lancinating pains, in the course of the cancer, appear, also, to depend upon the formation of cancer cells in the neighboring nerves; they seem then to show that the cancer is no longer local, but has already begun to spread to contiguous parts; from which the operator's hope of a favorable issue must be much diminished. Unfortunately, the operation is frequently undertaken too late, as well from the fault of the patient, who keeps the disease too long secret, as through the fault of the surgeon, who will only resort to this remedy when there can no longer be any doubt as to the existence of a cancer. The frequent fatal relapses after delayed operations, should be an inducement to remove every node or induration from which cancer may be afterwards developed. The operation then belongs to the unimportant, and no disadvantage arises, even if the tumor prove to be of the benignant kind.

This becomes still clearer when we follow the formation of scirrhus and of cancer. If we examine a scirrhus in the stage of the hard node, we find nuclei and very small cells, which become enveloped by fibres. The scirrhus grows but slowly; no great interchange of substance yet takes place in it. Through the slow increase of the cells, and the enlargement of their groups, the surrounding cellular tissue becomes stretched, and the hardness of the tumor increases. Beyond the fibres enveloping the scirrhus, no nuclei and cells yet occur in the neighboring tissue, and we may yet consider the evil as a local one. In genuine cancer, on the other hand, a more rapid cell-formation follows, the cells are larger, and are not separated from the neighboring tissues by such thick layers of cellular tissue and fibres; the whole tumor loses in hardness, because there is more parenchymal fluidity, and thence arises a more active interchange of substance with the existing cells, which are therefore also more readily reproduced. If the tumor is luxuriant, it then feels soft, it is designated as medullary sarcoma, and consists almost entirely of cells, many times without a trace of fibres.

From this development of cancer we can only expect, in the first period, since from the slight interchange of substance the cell-contents has not yet diffused itself in the mass of the scanty parenchymal fluidity, that the contiguous parts would not be penetrated thereby. The increase of the node shows greater activity in the tumor, a more lively interchange of constituents, and a diffusion of the infected parenchymal fluidity. If burning, shooting pains occur, we may then consider it as certain that the parenchymal fluidity has already penetrated the nearest nerves, inducing new cell-formation, together with destruction of the nerve-tubes. In the cancer itself no nerves occur, and it possesses no feeling.

In extirpation of a cancer, not merely much of the apparently sound parts must be removed; but, after the operation, the cut edges should always be accurately examined with the microscope, since if at one or more points, granular substance, nuclei, or cells are found, the diseased part has not been completely removed. In such a case, we must resort to more extensive extirpation, or at least to the application of caustic, in order to prevent a relapse. Bennett has also directed attention to the necessity of microscopic examination immediately after the operation, and maintains that every suspicious tissue should be examined before we close the wound.

The author takes this opportunity to recommend a strong solution of iodide of potassium applied upon an already open and fungous cancer. By covering a fungus with compresses wet in such a solution, it not seldom disappears and becomes resolved, and the disagreeable smell and bleeding cease, while the remedy produces no injurious effects upon the surrounding parts. In a case of cancer of the tongue, with such an intumescence that the taking of food was difficult, the patient took continually such a solution in the mouth; the fungus became softer, and, after a couple of days, fell off, so that the tongue again resumed its normal size. Relapses are, of course, not obviated by it. This patient died subsequently from cancer of the throat, but his life was at least lengthened by this means. If we apply the salt in form of powder, the fungus disappears still quicker, and sphacelates without disadvantage to the other parts.

From the preceding, the author derives the following conclusions:—

1. Through an interchange of substance between cancer cells and intercellular fluidity, the latter acquires the property of generating new homogeneous nuclei and cells.

2. This intercellular fluidity stands in connection with that in the surrounding healthy parts. The latter obtains thereby the same constituents, and the disposition to form similar cells, which now arise along the course of the cellular substance in the surrounding healthy tissues.

3. From their minuteness and small quantity, the nuclei and cells are not perceptible with the naked eye; and thus the surrounding parts may appear perfectly healthy, although they bear in them the germ of a progressing cancer.

4. It is therefore important that in extirpation, the cut edges of the healthy parts should be accurately examined for cancer cells, with the microscope.

5. The burning, shooting pains in cancer may be considered as a proof that the cancer cells are diffused to a considerable extent, and to the nerves; they show that we have no longer to do with a merely local evil, and that no very certain result can be expected from the operation.

6. By absorption of the infected parenchymal fluidity, by means of the lymphatic vessels and veins, the whole body appears to become more or less infected, so that secondary cancer arises in remote places and parts, and an operation is no longer to be thought of.

7. The altered parenchymal fluidity penetrates into the organic tissues. The sarcolemma of the muscular fibres, and the walls of the nerve-tubes appear to take it up, and there arise, in the interior of both, similar nuclei and cells. Hence comes the absorption of the muscular fibre and of the nerve-contents, and the deposition of fat; the former become consumed and annihilated, while their envelopes, the sarcolemma, and the wall of the nerve-tubes, still remain.—*Schmidt's Jahrbücher*, *May*, 1854.

PART IV.—HOSPITAL RECORDS.

(*Crowded out by press of matter.*)

PART V.—EDITORIAL AND MISCELLANEOUS.

The Study of Medicine in New York. For some reason, it is not worth while here to ask what, the advantages offered by this city to students of medicine have been singularly overlooked. The general purposes for which a city is sought by students desiring to complete a professional course are first, good teachers provided with abundant means of instruction, and second, abundant opportunities of seeing the many forms of disease. Of the instructors of this city, it perhaps does not become us to speak, and yet we must, in justice, say they do not fear comparison with those of any of our cities. With the means of instruction they are well furnished, and are diligent and laborious in using them.

Of the hospitals, however, we may speak with less reserve. No city can, during the winter season at least, at all compare with this in the number of patients suffering under all forms of disease, which are accessible to the student. About *three thousand* occupied beds are thus at his command; and though it is clearly impossible for him to see them all at once, still they are fortunately so classified in different institutions that one disease, or one class of diseases, can be readily studied. Thus, Paris itself hardly presents greater facilities for the study of syphilis than does the Penitentiary Hospital. All common surgery may be constantly seen, while the more sure and striking operations are continually required. Two eye infirmaries, four very large dispensaries, and clinics connected with all the schools, present opportunities of studying general or particular disease which, we say without fear of contradiction, will astonish all who become familiar with them, and, with a single exception, all these are free to students. With all these advantages, however, the power has not been acquired of driving knowledge into those who will not study; but to those who are ready to work, we say here is all the material for gaining knowledge; bring to it your own industry, and your stores will increase rapidly, while you will continue to rejoice in your enlarged knowledge and experience.

Medical Education.—No topic has been more prolific in essays, discussions, and opinions among medical men, for the last eight or ten years, than this. Almost every one has some "peculiar views" as to the best mode to be pursued in furnishing the minds of neophytes with the requisite amount of knowledge to authorize them to undertake the care of the sick. By no means is it our intention to add to the number of modes which will, undoubtedly, accomplish all these things, but rather to discuss certain points connected with the whole subject, and of importance in every view.

There are, evidently, two classes of instructors for students of medicine. One is composed of those who give office instruction, as it is termed: that is, who receive the pupil to their offices, who set before him his text-books, who show him more or less examples of disease, and give the general direction to his whole course. The other class is the body of public lecturers in the several branches of medical science, grouped as they are in the various medical colleges of our country. It is the first class who have, in fact, the privilege of admitting applicants to the study of medicine. It is the second class who have directly, or indirectly, authority to graduate them as fitted to practise the healing art. A certificate of study with the office preceptor is necessary to obtain admission as a candidate for graduation, and, therefore, the pupil *must* have passed under the tuition of both.

At the first glance, then, each class of instructors has his peculiar duties and responsibilities. It rests with the office instructor to guard the very entrance to the sacred penetralia, and to turn back the ignorant or unworthy applicant, while it is the public lecturers who must, by their united decision, say whether or not those who have been sent to them are worthy of the honors to which they aspire. To each, then, should the profession look for that defence against the admission of base men to their ranks, which has been intrusted to them. In fact, however, it has been usually the public, not the private, teachers who have been blamed for whatever of error has been committed in this respect. It is they, it is alleged, who have conferred the degrees, they only are blameable. It is not our purpose to deny that fault may rest with them; we admit that it does so rest with more or less of them. But we, at the same time, say that more blame is justly chargeable to private instructors. It is they who admit unqualified persons to their offices; it is they who best know their deficiencies; it is they who are best acquainted with their moral character; and still, it is they who send them to the colleges with certificates of time passed in the study of medicine, and, at the worst, make no objection on the score of bad morals. The professors of any college must be unable to detect any moral deficiency, when at the longest they see pupils but for six months, and then not with the intimacy of a private instructor,—unless, indeed, the immorality be excessive. And so, too, with those who are ignorant. Cramming, impudence, and accident do very much towards blinding those most desirous of ascertaining the actual degree of knowledge possessed by an individual. Still, every year, more or less applicants for graduation are rejected from both these causes; and yet the private preceptor has sent them to the colleges with the necessary certificates. Good-nature, or the fear of displeasing the individual or his friends, may, in many instances, account for this, but the fact remains the same.

It must be allowed to be a singular circumstance that, in our country, the schools are the scape-goats for whatever of error has been committed in lowering the degree of education of medical men. Our national Association has appointed committees on committees to attend to, and report upon, this very thing. Sometimes views have been taken similar to those just stated; but more generally it has been the schools—the schools, that have been advised to be tinkered, or altered, or amended. This arises, we do not doubt, from the fact that poor human nature is fond of laying its own burdens upon others' shoulders, and in confessing faults to exist in others rather than in itself. Long lecture-terms are advised, and urged, and insisted upon as the great cure-all; and more departments, and more professors, are spoken of as equally certain remedies. Still the faults of the private instructor are overlooked; or cannot be reached, and the evil continues to exist, simply because its source remains.

We do not say this because we are not willing and desirous to aid any scheme which shall seem to promise a real improvement in this matter; but we are not anxious to run after every *ignis fatuus* that dances in the distance; and prefer to keep to the well-trodden path, rather than risk ourself in the boggy woods of theoretical and utopian plans.

The immediate cause of these remarks must be found in a memorial from the American Medical Society of Paris, presented to the National Association, at its last meeting, of which we had before purposed to speak, and which has been recalled to our remembrance. This Society states that the Association had its origin "from the consciousness of physicians of the low state of medical education in our country," and the desire to improve it; that they, "by our sojourn abroad, have become more painfully conscious of our infirmities and deficiencies at home;" and that they, therefore, recommend a plan for remedying all these defects. Now, when we remember who compose this Society, we confess to a suspicion that sending this memorial to the Association is a piece of impertinence. Americans who are studying medicine in Paris are the members of this Society; and these must be chiefly those who have but lately graduated. We say *must* be, because but few men of established practice can allow themselves more than a few months in Paris. It is not going too far to add, that they can hardly have exhausted all knowledge as to the requirements or wants of the profession at home, or the difficulties under which it labors; they have not tried the effect of changes, and cannot see the great difficulties which lie in the way of their accomplishment. A person entirely without experience of the effect of "a sojourn abroad" upon himself, can readily suppose that it would enable one to perceive his own deficiencies, whether they were owing to the defects of the system of education, or to his own insufficient diligence. It is not so clear how it should enable one to know the best remedy for the defects in that system. And this memorial would confirm this opinion. The Society urge this plan: that a board of examiners should be appointed by each State Medical Society every year, which shall publicly examine all applicants who are introduced by a member of the Society; and that no one shall, without such examination, be admitted to the State Society or National Association. To this plan we have only two objections; one, that it is not practicable; and the other, that if it were, it would do no good. The Society does not enter into particulars as to the qualifications to be demanded of candidates, but says, "They should not, however, believe in any peculiar doctrines or methods—no certificates of attendance upon courses of lectures should be necessary, but solely the possession of the necessary amount of medical knowledge to practice their profession with safety and honor." That is to say, if we understand this language, no inquiry should be made as to whether or not they have been deluded by the "peculiar doctrines or methods" of Hahnemann, Priessnitz, or Thompson; none as to whether or not they have taken all available means of acquainting themselves with those portions of medical knowledge to be learned only from extensive museums, well-furnished cabinets, and expensive plates, which can be in the possession of colleges only; but the whole inquiry is, whether or not they can answer for a little while (for the examination in such a case must be brief) to the questions proposed by the board in such a way as to satisfy that body. Thus, we should have the two safeguards, now placed one in the hands of the private preceptor, and the other in those of the schools, removed, and no substitute provided ; while no Hippocratic oath would with its solemn promises challenge the attention, and warn the thoughtless errorist to turn away to a more congenial companionship.

The memorial says very truly, that this could have no effect on the established schools, and on this account we have spoken of it with perfect freedom. Only by injuring the profession could it in any way affect them.

We have said that sending this memorial to the Association seems to us impertinent. We ought to add, that we have no idea that it was *intended* to be so, but arises rather from inconsiderate haste. Persons have been known to write letters from Europe, giving glowing accounts of Italian skies, and Alpine scenery, and beautiful cataracts, who have never taken the trouble to see Niagara or St. Anthony, or to visit Mount Washington, or to think of the beautiful blue which, in their own country, is almost continually above them, and which Italians themselves confess to be unsurpassed. So, too, persons have been known to go to London and Paris to study medicine, who have not begun to exhaust the means of instruction offered to them at home, and have esteemed every thing which surpasses their own ignorance to surpass their own country. It is by no means impossible that there may be some such in this Society. Let it be understood that we do not undervalue a European education, or the advantages possessed by those who are permitted to follow the instructions of the learned men of the English, French, and German capitals. But these advantages do not confer all wisdom. Should a few students from Philadelphia, who had rarely gone to the Pennsylvania Hospital in that city, come to New York, and, pursuing their studies here with more diligence, have become acquainted with the advantages offered by Ward's Island, Blackwell's Island, Bellevue, and the New York hospitals, as well as elsewhere, form themselves into a society and send a memorial to the Medical Society of Philadelphia, composed in part, at least, of the instructors of that city—telling them that medical education in that city was in a terribly low state, and that they would advise the adoption of a certain course to improve it—would not such a proceeding be regarded as somewhat impertinent? In much this light do we look upon this memorial.

In our opinion, Dr. Sayre, of this city, did good service by calling attention to this document, which was at first carelessly received and referred, and by causing it to be laid on the table. This was due not to the interests of the schools, but to the dignity of all who sit in that Association as representatives of the American medical profession.

THE TRANSACTIONS.—The volume of Transactions of the Medical Association, we are rejoiced to learn, is making rapid progress, notwithstanding the many detentions necessary when so many authors desire to see their proofs. The mechanical execution will do credit to the printers, Messrs. Baker, Godwin, & Co., as does every thing that comes from their hands. It is decided that the volume shall be bound; and we can thus promise the profession a pleasanter book, so far as externals are concerned, than any of its predecessors. Members should send in their subscriptions at once, if they wish to secure copies.

CHOLERA.—With the remarkably cool weather of August, this disease has rapidly abated in our city. On the first of September, one of the cholera hospitals, that in Franklin street, will be closed. The Mott street hospital will continue open longer. The returns show a very good percentage of recoveries in these institutions, when the condition in which patients are received is remembered, some being, in fact, moribund. The disease has at no time this summer prevailed to any alarming extent, except among the poorer classes, and those who were imprudent in diet and exposure.

AT a special meeting of the Medical Board of the State Emigrant Refuge Hospital, held in June—present, Drs. Cox, Carnochan, Emmett, Ford, Habel, and Schilling, the following resolutions in reference to the late Dr. Macneven, were unanimously adopted :—

Whereas, This Board has learned with sincere sorrow, that since the last meeting, their colleague, William H. Macneven, M. D., one of the physicians of this Hospital has been removed from among them by death, in the prime of life, in the midst of eminent usefulness,

Therefore, *Resolved*, That this Board has sustained a severe loss in the demise of Dr. Macneven, who by his professional acquirements was an able and valuable counsellor, and by his uniformly kind and gentlemanly bearing had won the respect and esteem of all his colleagues.

Resolved, That this Board sympathizes most deeply with his afflicted mother and family in their melancholy bereavement.

Resolved, That the President and Secretary of this Board sign and send a copy of these resolutions to his family.

Signed,

HENRY G. COX, M. D., *President.*
T. ADDIS EMMETT, M. D., *Secretary.*

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PART I.—ESSAYS, MONOGRAPHS, AND CASES.

Observations on Miasmatic Diseases. By EDWARD WARREN. M.D., of Edenton, North Carolina.

THE eastern section of North Carolina is especially a miasmatic country. During the summer and fall months, remittents and intermittents prevail to an extent that would appear incredible to those whose experience has been confined to more healthy localities. Cases of the latter are usually more abundant in the earlier and latter parts of the season. They seem to herald the approach of bilious fever, then to yield the field to this disease, and finally to regain their supremacy, just as the yellow hues of autumn are fading into the sombre gray of the winter season. Remittents present themselves principally during the long and burning days of the summer months, and continue to rage with obstinacy and violence until the "miasmatic cause" has become weakened in a measure by the cool nights and chilling breezes of October. In other words, intermittents are most abundant when that influence which operates in the production of malarious disease is weakest, whilst remittents appear in greatest number during that period at which its power and virulence are manifested in their greatest intensity.

I do not mean to say that these diseases are not concomitants during the continuance of our sickly season; I only desire to state the general rule which regulates their appearance.

Intermittent fever is sometimes obstinate, but can generally be managed with ease, if sufficient time and attention are given to the task. Quinine is of course, the great remedy for this disease, and in a large majority of cases will effect a cure with rapidity and certainty. The manner of administering this medicine depends upon the condition of the patient, and the length of the interval between the cessation of the fever and the advent of the next paroxysm. I have found that anœmic patients are not benefitted so much by quinine in quantity, as those of a fuller habit, and that children will bear with impunity a larger proportional dose than adults. If the "interval" is a long one, no necessity exists for the administration of this medicine in large doses, and the paroxysm will be more effectually prevented by a grain or two every hour, than in any other way. When there is but a short time for action, the better plan is to give a decided dose an hour or two before the expected attack, and to keep up the impression by means of small doses regularly repeated, until all danger of the chill has passed. Under these circumstances, my rule is to combine some purgation with the quinine, in order to secure its action on the bowels in the event of a failure to avert the paroxysm. Although this course is in opposition to the general practice, I am not only sustained in it by many practical proofs of its utility, but can also explain the rationale of its action on the most satisfactory therapeutical grounds. The objection usually urged against purgatives in this connection, originates in the belief that purgation induces a condition of things favorable to the invasion of the chill. Now, without denying the truth of this supposition, I feel assured that this isolated fact (?) does not furnish us sufficient reason for the rejection of cathartics under the circumstances indicated. My experience teaches me that the tendency of quinine is to the production of a state of the system which has been properly denominated cinchonism, a condition antagonistic to the disease in question, and utterly incompatible with its continuance. When the paroxysm succeeds the administration of quinine, it is a proof that cinchonism has not been induced; and when an immunity is the result, it follows that the desired phenomenon has been developed. In this view of the case, it is apparent that the administration of a cathartic could be productive of no injury, since in one instance the paroxysm must necessarily recur, and in the other it would be absolutely prevented. But there is another aspect of the matter which plainly shows the importance of the purgative plan adverted to. If a large dose of quinine fail to prevent the chill, it almost invariably increases the fever, augmenting all the nervous symptoms, and directing the circulation toward the brain in such a manner as to develop an excessive degree of excitement in that organ. In a word, it brings about that very condition of things in which the revellent and depletive action of a purgative is most peremptorily demanded. To administer it now, is to lose all the time required for its passage through the intestines, and consequently, to subject the patient to all the dangers and inconveniences necessarily incurred during that period. To give it previously, in connection with the quinine, is to have its derivative and sedative action either *before* the acme of the fever, or *at* the critical moment when the sufferings of the patient are the most severe, and his danger the greatest. It is hardly necessary for me to ask which is the better plan of the two. The propriety of the previous administration follows necessarily from a bare statement of the facts of the case. Convinced that the exhibition of purgative medicine in this connection cannot prove detrimental to the patient, and feeling well assured that it *may* do much good, I make it an invariable rule to administer large doses of quinine in connection with Epsom salts. Much experience has taught me that this plan is as feasible in practice as it is excellent in theory, and I have no hesitation in recommending it to the profession. If the disease is not arrested by these means, I conclude that some abnormal condition of the liver has prevented the development of the cinchonic condition; and I then administer blue mass or calomel, working it off with Epsom salts, to which ten grains of quinine and a quarter of a grain of morphia are added.

In some instances, quinine seems to be inoperative, and other medicines have to be employed for the relief of the patient. Among the remedies thus called into requisition, I have found several particularly valuable in the management of obstinate intermittents. I have used dog-wood bark (cornus Florida), willow (silex alba), boneset (eupatorium perfoliatum), cotton seeds (gassipium herbacum), snake root (serpentaria), holly leaves (ilex opaca,) yeopon (ilex vomi tosia), fennel leaves (fœniculam vulgare,) various preparations of iron, as the sulphate, carbonate, ferro-cyanuret, &c., small doses of chloroform, sulphate of copper, Fowler's Solution, salicine, and various others which do not now occur to me.

Some of these agents, as for instance, eupatorium, holly leaves, fennel, salicine, cotton seeds, and yeopon, seem to possess decided anti-periodic properties, and may be employed to advantage in preventing the recurrence of paroxysms, precisely as quinine is used. Others, as the preparations of iron, copper, Fowler's Solution, chloroform, &c., are essentially alterative in their properties, breaking up the morbid habit upon which the disease depends, and introducing a new and improved condition into the system.

With those who have long been victims to this malady, the physician has something more to do than simply to interrupt the progress of one attack. He has to guard most diligently against other invasions to which his patients are exposed both because of the enervation resulting from the disease itself, and the existence of an irritation of the stomach, spleen, or liver, which is frequently a concomitant of protracted intermittents. The indications under these circumstances are too plain to be mistaken. It is necessary to restore the system to its natural tone, to destroy the periodic tendency to disease developed by the morbific agent, and to relieve the organ irritated and suffering. As a means to accomplish the two ends first indicated, it is necessary to administer alteratives and tonics continuously, and to combine with them either quinine or some other anti-periodic. My practice is, to use some preparation of iron in conjunction with the sulphate of quinine for a long period, giving a few grains of each daily, and increasing the dose of the latter every seventh day. Of all the ferruginous preparations, the ferro-cyanuret answers best, as will be discovered by all who fairly test its efficiency. An admirable plan is, to combine it with capsicum and gentian, and to administer two grains of the preparation thrice per diem. Fowler's Solution does well, when there is but little irritation of the stomach; and when employed persistently in connection with some vegetable tonic, frequently effects a permanent cure of most obstinate cases.

When irritation either of the stomach, liver, or spleen exists, it will exhibit itself by alterations in the appearance of the tongue, hue of the skin, color of the dejections, together with the manifestation of other rational symptoms too numerous to be detailed.

1. When the stomach is principally affected, it becomes a matter of the first importance to attend strictly to the diet of the patient, and to compel him to refrain both from those articles of food which are irritating in themselves and difficult of digestion. Acids, well diluted, may be employed with advantage; tonics and alteratives of every description can be used with benefit to the sufferer, provided no acute symptoms are present. The subnitrate of bismuth will be found an invaluable remedy in a majority of cases, effecting a cure of the diseased condition with more rapidity and certainty than any other agent in the therapeutical list. External irritation is an excellent adjuvant to the other remedies; but it is important to avoid the use of croton oil for that purpose when any laxity of the bowels presents itself in this connection.

2. When the liver is principally irritated, some torpor of the organ usually results. Blue mass given at night, and followed in the morning by a small dose of salts and quinine, together with the use of cups or a blister immediately over the left hypochondriac region, and a proper diet, will effect a cure with more certainty and rapidity than any other plan with which I am acquainted.

3. When the spleen is the suffering organ, it generally becomes much enlarged and very tender. Acute inflammations of this organ are frequently the sequelæ of long-continued intermittents; and when so, the prognosis is doubtful, and their treatment difficult. In many instances the excruciating pain which characterizes splenitis, commences at the onset of the paroxysm, advances pari passu with the exacerbation, declines when the apyrexic period

approaches, and subsides entirely during the succeeding interval. It is by this periodic tendency, in connection with the hue of the skin, condition of the tongue, season of invasion, and previous history of the case, that this affection can be distinguished from pleuritis. The physical signs characteristic of the latter affection, do not constitute an invariable criterion by which to diagnosticate it, for the reason that in some cases of splenitis, where the organ in question is much enlarged, and presses on the diaphragm, there is not only a hard and dry cough developed, but the breathing becomes short and rapid, and something very much resembling the "friction sound" is produced. It is true that there is no ægophony in this disease; but this sign only presents itself after the exudation of lymph, and not in the incipiency of pleurisy, and consequently, constitutes no element of the differential diagnosis between splenitis and an inflammation of the pleura in its primary stage. Again, Dr. Wood remarks, that "the extension of the dulness on percussion, downward into the abdomen" will indicate the fact that the spleen is the suffering organ. Now, this rule is entirely valueless when applied to miasmatic districts, for the reason that numbers suffer with an enlargement of the spleen during the whole of their lives, and if they were tried by this test, the physician would be invariably deceived in regard to the locality of their diseases. In other words, many cases of pleuritis of the most active and fatal character occur in connection with this downward extending dulness; and to regard that as an important index to the formation of a proper diagnosis is voluntarily to abandon oneself to error, and deliberately to resign a patient to death. As I have before remarked, the paroxysmal nature of the pain and accompanying fever, the history of the case, the appearance of the tongue and color of the skin, indicating the participation of the liver and stomach in the diseased condition, taken in conjunction with the continued absence of ægophony, and the non-development of other physical signs which characterize more advanced stages of pleurisy, will point out the organ suffering, and distinguish splenitis from other diseases. The treatment required for the management of this affection, can be best explained by giving a case in detail.

B. H., aged 30, whose health had been usually good, was attacked with intermittent fever early in the summer of last year. As he had faith in the powers of his constitution finally to attain the mastery, and as he lived several miles from a physician, he failed to procure medical assistance for more than a month. During the whole of that period he was suffering with the tertian form of the disease in question. He finally sent for me in haste, under the belief that he had an attack of pleurisy. I found him with an excruciating pain in the left hypochondriac region, and along the lower border of the chest; which was increased by coughing, making a deep inspiration, and lying upon the affected side. His respiration was hurried, and occasionally interrupted by a short, dry cough. There was some tenderness, tumefaction, and dulness, just below the rib, and extending "downward towards the abdomen." Upon auscultating, I distinctly discovered something which seemed wonderfully like the "friction sound" of pleurisy. His pulse was small, hard, and frequent; his skin dry and yellow; his tongue thickly and thoroughly coated; and his countenance anxious and expressive of very great suffering. I concluded that it was a case of splenitis, for the reason that it occurred as the finale of an intermittent attack, at the season of the year when pleurisy is uncommon, and because the rational and physical symptoms when combined seemed to point most significantly in that direction. His sufferings were so great, that I found it necessary to use chloroform, compelling him to inhale it freely, and using it topically where the pain was most intense. After composing him in a measure by this plan, I gave him the following preparation,—sulp. quin. gr. x, sulp. morph. gr. ¼, sulp. mag. ℥ ss, and aqua, f℥ j., and cupped him freely over the abdomen. I had the satisfaction of finding him very soon in a fine perspiration, with a pulse more open and less frequent, a decided abatement of the pain, and, in fact, an amelioration of all the symptoms. I then directed warm fomentations to be applied constantly to his left side, and instructed his friends to administer ten grains of calomel at night, and to follow it next morning with a dose of salts, and ten grains of quinine. The next day he was better, having spent a quiet night, and having been freely operated on by the medicines administered. I directed him to take small doses of quinine regularly every hour, and to apply a blister just over the left hypochondrium. I was sent for again in the afternoon, and found him suffering as on the day previous. His chill had come on at an early hour, and with the rise of his fever there had been a recurrence of the intense pain already described. I treated him precisely as before, omitting the cupping, and with the same success in relieving and composing him. The next morning I commenced early with two grains of quinine every hour, and was fortunately able to prevent the approach of his chill, and to secure for him a day of rest and comfort. I saw him again on the succeeding morning, found him improved, and directed quinine to be given every second hour, and the blister to be kept open. In a week he was so far recovered as to be able to ride to my office, a distance of seven miles, without suffering materially from the exertion. On examination, I discovered that, notwithstanding there had been a considerable abatement of the tumefaction and tenderness, there was still sufficient enlargement and soreness of the spleen to indicate the continued inflammation of that organ. I directed him to use mercury in the form of pills, made of ordinary mercurial ointment, every night and morning until his gums were affected, taking pains to keep his bowels properly open, and to be prudent as regards his diet. I also instructed him to keep a blister open and running over the seat of pain, and also to take five grains of quinine every seventh day. So soon as his gums were touched by the mercury, I substituted the iodide of potassium for that remedy, and finally affected a complete cure of the disease The individual is now entirely well, and attends regularly to his business.

I have dwelt at length upon this case, not because there was anything new in the plan of treatment adopted, but for the reason that it both illustrates what I have said in regard to the difficulty of distinguishing splenitis from pleurisy, and indicates the treatment to be pursued in the acute and chronic forms of the disease. The management of the latter variety is not always an easy task, and sometimes requires months of patient industry to accomplish a successful result. Strange as it may seem, anti-spasmodics not unfrequently exercise a beneficial influence in the chronic form of splenitis. I have known many cases successfully treated with pills of assafœtida alone, when other remedies had entirely failed to produce any impression upon them. The valerianates of iron, quinine, and zinc, will also be found excellent remedies when used in connection with external irritants, anti-periodics, and gentle purgatives. Preparations of iodine answer well, when similarly combined; and frequent applications of iodine ointment may be sometimes advantageously substituted for the blistering previously recommended. Dr. Swain, of Kentucky, has recommended a prescription, which I have tried, but not sufficiently tested as yet. It consists of nitric acid, ʒ iij, sulphate of iron, ʒ ij, and water, ℥ ijss, ten drops to be given thrice per diem, the dose being gradually increased up to fifteen drops. I am inclined to think favorably of this combination; but I am assured, that the addition of valerian would improve it vastly. When the stomach does not materially participate in the irritation, a succession of emetics administered daily, or oftener, together with a flannel band worn tightly around the abdomen, will sometimes diminish the size of the spleen with more certainty and rapidity than it can be accomplished by any other plan with which I am acquainted. I should not adopt these measures if much tenderness existed, and would discontinue them at once if any thing resembling peritonitis manifested itself.

Remittent fever is the great disease of the South; and as so much has already been written in regard to it, I feel some delicacy in venturing to say a word on the subject. I do not expect to be able to give any new views either in reference to the etiology, pathology, or treatment of this disease, but simply desire to make a plain statement of the manner in which it is managed in this section of the country. Bilious fever, as I have before remarked, first makes its appearance in June, and continues to rage with unabated intensity until late in October. The early cases are not usually as violent as those of a later date, but they are decidedly less controlable by quinine; that is to say, the "abortive treatment" is more frequently unsuccessful with the fevers of June than with those of October. I have been led to the conclusion, from this fact, that the more purely miasmatic an attack of fever, the greater the susceptibility of the system to the antagonistic influence of quinine, and the more reliable this remedy in the production of a favorable issue. In many instances, there seems to be an inverse ratio between the violence of the chill and the intensity of the fever; thus, the greatest reaction and excitement will succeed the most insignificant and inappreciable paroxysm, and *vice versa*. It seems from this, that nature, even in her wrath, forgets not entirely her accustomed kindness, and hesitates to hurry her victim from one extreme of danger to another before the powers of the system have rallied sufficiently to withstand so fearful a transition. The treatment upon which I rely for the management of this affection, may be divided into, that which is proper for the chill; the "rise" of the fever; and the decline of the excitement.

(1.) If the chill be an ordinary one, I simply endeavor to render the patient comfortable, by covering the abdomen with a warm meal-poultice, applying hot bricks to the extremities, and administering warm yeopon tea. If there is much sick stomach, I give an opium pill, and sprinkle that part of the poultice in contact with the abdomen with powdered mustard, or apply chloroform just over the epigastrium. If the paroxysm assumes a more congestive form, I then apply cups to the back of the neck and between the shoulders, use mustard plasters saturated with chloroform on the abdomen and wrists, soak the feet in warm water well supplied with mustard, and administer the warm tea as before. If these means are not attended with immediate benefit to the patient, I substitute small doses of calomel and opium for the warm tea, and, in addition, give ten or fifteen grains of quinine every second hour *per rectum*. This is, in fact, the treatment to which I resort in congestive fever; but as it frequently happens, in the course of an ordinary remittent, that the paroxysm presents all the features of the former disease, I have thought proper to refer to it in connection with the management of the latter affection. In some instances, where much plethora exists, and when the strength of the patient justifies the lancet, bleeding will be found an excellent remedy, particularly if it be associated with a hot mustard-bath for the feet. An excellent mode of applying heat continuously, is to take a blanket, double it up to the required size, soak it in warm water, and then place it over the abdomen. A still better plan is, to fill a bag made of gutta percha with hot water, and apply it in a similar manner. Heat may be applied to the spine in this way from one end to the other, which remedy answers often an admirable purpose under the circumstances referred to. Salt, when heated, cools slowly, and on that account may be used with advantage to meet the same indication. The proper way to employ it successfully is, to heat a considerable portion, put it in a closed sack, and then use it topically as a poultice. I have frequently cut short a chill by administering at once ten grains of quinine and a quarter of a grain of the sulphate of morphia. But I do not consider this safe practice when there is evidence of congestion of the brain, and consequently I do not recommend it when that condition exists.

(2.) When the fever is rising, that is, after all evidences of the chill have disappeared, I make an effort invariably to carry out the "abortive practice." I have great faith in the lancet, in violent cases of remittent fever, and unhesitatingly employ it as an adjuvant to the practice just referred to. I can best illustrate my meaning by referring to a case.

(I.) Called to see a negro man, aged 23 years, well formed, very strong, and generally healthy. His chill had passed off two hours previous, and he was then suffering with a most violent fever. His pulse was full, hard, and frequent; his skin hot and dry; his tongue thickly and thoroughly coated; and his eyes red and roving. He complained of intense pain in the head and back, uneasiness in his extremities, and distress about the epigastric region. He was so restless, that it was with great difficulty his attendants could keep him upon his bed. On inquiry, I learned that it was the first day of his sickness, and that he had been much exposed to the sun and dew. Administered ℞ Sulph. quin. gr. x., sul. mag. ℥ ss., sulph. morph. gr. ¼, and water ℥ j. f, and directed his head and extremities to be freely bathed with cold water for twenty minutes. At the expiration of that time, I bled him copiously from the arm. A free perspiration was induced, and the patient declared himself better. Allowed him to drink yeopon tea; and in an hour I found that the perspiration continued to pour from him, and that he was almost entirely recovered. He declared himself a new man, and said that he felt almost well. Directed yeopon to be continued, and ordered ten grains of calomel to be given at night, and a dose of salts, containing ten grains of quinine and a quarter of a grain of morphia, in the morning.

Called the following day, after the hour for his chill; found that the medicine had operated well; that the perspiration had continued with but little abatement, and that the patient was in every respect decidedly better. Ordered a grain of quinine every hour until twelve had been administered, and directed his master to send for me if he had another paroxysm. The boy left his bed after the second day, and was entirely relieved from that time.

(II.) Saw B. J., aged 50, generally healthy, two hours and a half after his chill; found him with just such a fever as I have described above—not so restless, but with more pain in the back, and slight nausea. Learned that he had been ill two days, with a decided remission on the previous evening. Administered ℞ sulp. quin. gr. x., sulp. morph. gr. ¼, sulp. mag. ℥ ss., and water ℥ j f. Waited twenty minutes, and then bled him freely. Perspiration started from every pore; his whole system was thoroughly relaxed, and he at once declared himself better. Gave yeopon tea, followed by calomel at night, and quinine, salts, and morphia in the morning. Called next day; learned that the perspiration had continued, and found the patient better. The medicine had operated finely, and produced bilious discharges. Directed a grain of quinine every hour, and discharged the patient as cured. He has never had a chill from that day up to this time.

(III.) Sent for to see J. G., aged 45, very robust, athletic, and healthy. Found him in the cold stage; applied hot bricks to his extremities, and a warm poultice to his abdomen, and gave him warm tea to drink. Called again in two hours, and found him with a high fever. His head suffered greatly, and there was much restlessness and general uneasiness. His pulse was full and frequent; his skin slightly moist, and very yellow; his tongue covered with a thick, grayish fur; and, indeed, every symptom of a regular remittent attack presented itself. I gave him quinine, morphia, and salts, as in the other cases, and followed them, in half an hour, with a copious bleeding from the arm. A fine perspiration was the immediate result, and a feeling of decided improvement followed as a necessary consequence. Gave calomel at night, and the usual combination of salts, quinine, and morphia in the morning. The bowels were not properly moved, however, cinchonism did not result, and there was another paroxysm, followed by considerable fever. I gave him an increased quantity of salts, with the same proportions of quinine and morphia. The patient was speedily relieved as before, and continued to improve from that time. He had no return of his chill, and has enjoyed uninterrupted health up to this period.

I could go on enumerating many other cases of like character; but the identity between the treatment pursued in all of them, is such as to render further detail unnecessary. I have resorted to this "combined method" of managing bilious fever a great number of times within the last three years, and have never yet known it fail in giving immediate and permanent relief to the patient. Of course it is unnecessary to pursue this plan in every instance, as a majority of cases are managed easily without it; but in those violent forms of remittent where prompt and decided measures are required, this constitutes *the* treatment *par excellence.* When the lancet is not required, I omit it, of course, and rely for a successful issue on the course already detailed. That is, I begin with the quinine, salts, and morphia, follow it by calomel at night, and repeat the first prescription in the morning. A larger majority of cases will be cut short by these means than by any other plan of treatment that can be employed, and I have no hesitation in recommending it to the profession as worthy of confidence and pursuit. I do not think there is any incompatability, therapeutically, between the lancet and a large dose of quinine and morphia. They are both sedative in their effects, and consequently their simultaneous employment is not in the least contra-indicated. The abstraction of blood not only assists the action of quinine in this way, but it also places the system more under the influence of that particular remedy. It is a well-established fact, that the diminution of the amount of blood has the effect of calling into more active and powerful play the therapeutical properties possessed by various medicines. As the tendency of quinine in quantity is to produce sedation, under ordinary circumstances bleeding renders that result more certain and decided, by increasing the susceptibility of the system to the influence of the remedy in question. M. Bernard found that the toxical properties of certain agents were increased by the abstraction of blood, even when they were introduced into the veins, and he drew from that fact the inference that bleeding not only assisted the action of medicines by causing their more rapid absorption, but that, *per se*, it rendered the system more susceptible to their influence. The use of the lancet, then, aids the action of quinine in three ways, totally distinct in themselves, and yet perfectly harmonious when considered together.

a. By its general sedative action, inducing in the premises the result aimed at in the exhibition of quinine in quantity.

b. By instituting that condition of things in which the system responds more directly to the properties of the medicine.

c. By causing the rapid absorption of the agent into the circulation and securing its more certain effect on the animal economy. When viewed in this light, the use of the lancet under the circumstances indicated, becomes not only negatively proper, but positively necessary; and he who fails to employ it in this wise, really discards a most powerful and important means of relieving the sufferings and ensuring the safety of his patients.

There is, perhaps, no symptom connected with the state of exacerbation which gives more distress to the patient, and trouble to the physician, than an obstinate sick stomach. Various measures have been recommended by different authors for its relief, and in following their advice, I have used successively mustard plasters, blisters, and cups, upon the epigastrium, and pounded ice, minute doses of calomel, preparations of opium, turpentine, creasote, soda; preparations of silver; and large quantities of calomel, per bram. It is possible to relieve the patient by the exhibition of some one of these remedies; but in many instances they fail entirely in the desired object. As the nausea is necessarily connected with the febrile excitement, I have found those means most efficient in relieving it which tended directly to the arrest of the fever. My rule is, to apply chloroform freely to the epigastric region, and to administer a combination of quinine and opium per rectum. Generally so soon as a free perspiration is established, this symptom abates with the others, and the sufferer is rendered comfortable and quiet. Chloroform produces both counter irritation and local sedation, results particularly desirable in the condition of things just described. I have sometimes succeeded in composing the stomach by cold injections given per rectum every second hour, and the continuous application alternately of heat and cold to the abdomen. When the nausea continues after the abatement of the fever, I generally give an opium pill, and use mustard on the abdomen. Should these means fail to accomplish the desired result, I then either cup or blister over the seat of irritation, and give small doses of calomel, frequently repeated. In some instances, where no evidence of inflammation presented itself, I have given relief by allowing the patient to partake of whatever article of food, or drink, that was most grateful to the palate. This course, however, has to be pursued with great caution, and should never be resorted to when the attack of fever has been of long duration.

To abate the intense headache which sometimes accompanies bilious fever, I use cups on the back of the neck, ice water applied directly, and poured from a height on the head, chloroform to the temples and forehead, and in some instances warm water or a poultice placed over the entire scalp. Of course the usual means for relieving the fever are simultaneously employed in the manner already described at length.

(3.) In the decline of the fever, I never use the lancet, but begin by giving quinine and morphia, then administer yeopon tea for several hours, and follow it by calomel or blue mass at night and quinine in the morning. I have pursued this plan in thousands of instances, and have never known it to fail in bringing out a free perspiration, and in affording decided relief to the patient. I never wait to unlock the liver by calomel, but proceed at once to the administration of quinine; and so far from supposing that the employment of this remedy has a tendency to increase the torpor, or promote the irritation of that organ, much experience and the most attentive observation have convinced me that the operation of mercurials is assisted by it, and their legitimate effects insured by the plan of treatment indicated above. If more than four hours intervene between the administration of the morning dose and the advent of the succeeding paroxysm, I give quinine and salts, in time to get the anti-periodic effect of the one, in order to prevent the chill, and the purgative action of the other in the event of a rise of fever. When the patient "misses" his chill, I then give a grain of quinine every second hour, as a means to secure the immunity thus attained by the larger doses previously exhibited.

Much more might be added on this subject, but as this article has already been protracted beyond all reasonable limits, I feel constrained to draw it to a close.

I have attempted to set forth nothing new in these pages, but have labored to give a faithful and unvarnished statement of that which I have seen and done in connection with miasmatic diseases. If this paper prove interesting or instructive to a single member of the profession, I shall console myself that I have not labored in vain.

Case of Chorea Sancti Viti. By J. Hibben, M. D., Brooklyn, L. I.

A case of unusual interest, laboring under this disease, recently occurred in this city. Laura B——. aged 22, born in New York, of delicate constitution and exceedingly nervous temperament, first had slight symptoms indicative of chorea when about ten years of age.

At that time she was confined to her bed, with fever of some type, for nearly two weeks, and when convalescent, a fire occurring nearly opposite where she lived, seemed almost to excite mania, requiring her to be closely watched for fear of personal injury. In a short time, however, she rallied again, and was apparently as well as ever in her life.

The death of her father occurred in a month after her illness, and such a depression of spirits followed as to render her friends apprehensive of the result; but eventually she recovered. She continued in the enjoyment of comparative health for four years after, when unremitting attention at the death-bed of her mother, loss of rest and anxiety of mind, with an extreme irritability of her nervous system, seemed to lay the foundation of the disease which so fully developed itself. Her mother died in July of '48, and since that time Louisa B——'s health gradually declined. That this affliction weighed heavily in her mind, will appear in the report of the case. At one time she, with four others, was found prostrated by the fumes of charcoal in a room where such a fire had been burning, but this seemed to leave no deleterious impression,—although the symptoms of chorea followed but a few months after.

July 1st, '54, she complained of sore throat and pain in the chest. Topical applications of argen. nit. to the throat, seemed to relieve her in a measure, so that she went into the country. Two weeks elapsed, and symptoms appeared so alarming that her family hastened her home to the city for medical attention.

On the 25th July I was called, and found her with unmistakeable symptoms of chorea sancti viti.

The most prominent were convulsive movements of the extensor and flexor muscles of the right arm; rapid protrusion and retraction of the tongue; lateral motion of the inferior maxillary; saliva flowing from the mouth; almost total loss of speech and appetite; and deglutition next to impossible. The pulse was regular at 95; and the upper portion of the body alone seemed involved, while the lower extremities were quiescent. Occasionally there were very violent contortions of the face, neck, and thorax. Prescribed emplast. canthar. vj.—iij. to be applied to the cervical vertebræ; ℞ Pil. cath. Co. two, to be taken three times a day; and as a tonic—

℞ Ferri Sulph. ʒ ss.
Tr. Gent. Co. ℥ j.
Quinæ Sulph. ℈j.
Acid Sulph. Dil. ʒ ss.
Tr. Cinchon, ℥ j.—M.
A teaspoonful every four hours.

July 26th. This morning an exacerbation of symptoms; having required the strength of four men to hold her in bed, during the whole night, so violent were the convulsions, and so continuously occurring. Two of the pills prescribed yesterday had been taken, without any effect on the bowels. The blister and two doses of the tonic seemed to relieve her, in a measure, for several hours; and then the convulsions returned with redoubled energy. No more of the medicines had been given, because she was unable to swallow them.

Finding her so violent, her arms and hands discolored by bruises from contact with the bedstead and wall, I administered chloroform by inhalation. Soon she became perfectly quiet, and breathed freely, as in sleep. The very first words she uttered, as the effects of chloroform were passing off, were, "O! my poor mother!" and these were the only words she had spoken distinctly for two weeks.

She remained perfectly at rest after the chloroform; and as I found deglutition had returned, a large dose of ol. ricini was given, and soon after a little beef tea. After prescribing an anti-spasmodic containing chloroform, to be given should these violent symptoms return, I left—promising to call again in the evening. At 3, P. M. I was summoned in haste, to find my patient suffering as much as ever, and kept upon her bed by main force. She remained, after I left in the morning, four hours perfectly tranquil, recognizing and conversing with her attendants, when, almost without warning, the convulsive movements returned.

The chloroform was again administered, and with the same effect as in the morning, but she was quiet only for fifteen minutes, when the same symptoms returned. Again I gave the chloroform, as soon as I saw convulsions returning. This time its effects did not continue quite ten minutes. There was a double object in view in giving chloroform, first to quiet the nervous system, then with the hopes of enabling her to swallow medicine; but the last two applications of chloroform did not seem to relieve deglutition. Prescribed ℞ Hyd. submur. gr. x, sacch alb. gr. v., to be placed posterior to the teeth, to dissolve, and thus trickle down into the stomach, and to excite an action on the bowels, which, up to this time, had not been moved, but remained obstinately constipated.

At 8 o'clock P. M. called in consultation with Dr. E. A. Whaley. Symptoms very much the same; spasmodic movements, but not so violent. The lower extremities now seemed to participate. Protrusion and retraction of the tongue, and the lateral movement of the inferior maxillary had entirely ceased. The abdomen tense and hard; deglutition still impeded. Prescribed ℞ Morph. sulph. gr. iij, sacch. alb. ʒ ss.—M. Six powders, to be given one every three hours, placed posterior to the teeth as before. Also an enema ℞ Tr. assafœtida, ℥ j; ol. terebinth, ℥ ss., in a vehicle of starch and soap suds, sufficient to make one quart; directing as soon as this had been retained in the bowels as long as possible, a clyster of warm beef tea, as nourishment.

July 27th. In company with Dr. Whaley—found my patient had passed the most quiet night since I was called, and, under the influence of morphia, was perfectly tranquil. Her friends had given her half a teacupful of beef tea previous to the last powder, which she had swallowed by spoonfuls, but at our visit deglutition again seemed impossible. Continued same treatment. The enema had no effect upon the bowels.

July 28th. At 8 o'clock P. M., same date, visited her in consultation with Dr. Benedict. Convulsive movements had returned, though not as violent as before; and morphia, like the chloroform, seemed to have lost its effect, in a great measure.

Ordered a grain of morph. sulph. every two hours, administered as before. ℞ Antim. tart. gr. iij, and a clyster, ℞ Ol. tiglii. gtt. iij.—mucilage acaciæ Oj.; also a suppository ℞ Morph. sulph. gr. iij, butter of cocoa, q. s.

July 29th. Our patient still more comfortable, though during the night was almost as violent as ever; seemed to recognise her friends occasionally; eyes open, and very weak; salivation from the hyd. submur. which had not passed off from the bowels; abdomen tense; respiration quick, but free.

July 30th. Administered chloroform again to-day—finding convulsions of the whole body very much increased, requiring a strong man to hold her upon the bed. The influence of the chloroform again remedied these contortions, and the muscles of the body became perfectly flexible and relaxed. Continued morphia and beef tea; to be given whenever she could swallow a teaspoonful. No action upon the bowels for six days.

July 31st. Dr. B. and myself astonished at the perfect composure of our patient this morning. She had remained quiet during the night, and though exceedingly weak, made efforts to communicate, by pressure of the hand and other signs, with her friends, showing that she recognized them and was aware of her situation.

She remained tranquil till 11 o'clock; when she died without a struggle.

Aware of the additional interest which a postmortem might contribute to the report of this case, I endeavored to secure one; but objections were too strong, and her friends would not hear of it.

There were some singular points in this case. The catamenia had been perfectly regular, and occurred a day or two before I was called. The pulse varied between 90 and 95 to the minute, neither more nor less, even during the most violent paroxysms.

Auscultation and percussion elicited normal sounds, though both her parents (I was informed) died of phthisis pulmonalis.

There had been, until recently, scarcely any derangement of the digestive organs; and until the day after I was called she had not been confined to her bed since the fever, which we referred to, at ten years of age.

No doubt the predisposing cause of this singular disease was general weakness and irritability of the nervous system.

Which—among what are considered exciting causes; viz. intestinal irritation, uterine irritation, affections of the mind, fright, horror, anger, &c.—conduced to a fatal termination in this particular instance, is still a question for solution, and worthy of further investigation.

The almost insurmountable obstacle to the treatment of this case was difficulty of deglutition; hence her inability to take medicines, and the speedy loss of influence of those remedies which were administered.

Since the prognosis is favorable in the great majority of cases of chorea sancti viti, this particular instance seems to present queries of peculiar interest.

Brooklyn, 219 Atlantic Street, Aug. 18, 1854.

Case of Hepatic Abscess. By A. W. Knight, M. D., White Sulphur Springs, Hamilton Co., Florida.

Cases of abscess of the liver are not of very frequent occurrence in this country; and it may not be amiss to make a brief record of one which terminated successfully, after an operation to evacuate its contents externally.

Oct. 25, 1851. Was called, in consultation with Dr. C., to examine the case of Mr. E. C., aged 63, of Columbia county, Florida. He had been treated for three months previously, the disease being considered hepatitis, and was now thought by the friends to be gradually sinking.

On examination, the right lobe of the liver was found to be very much enlarged and tender on pressure. Percussion over the false ribs caused acute pain; pulse from 95 to 100; bowels constipated; tongue slightly coated and red at the edges; has had copious "night sweats." No pain in the head.

I decided that the case was one which would result in abscess; but, as my opinion was not acquiesced in, I was requested to take charge of the case, and did so; having, however, arranged to try for three days a preventive course of treatment which was suggested.

28th. Patient no better; had lost strength; pulse 90, under the use of stimulants frequently repeated. The swelling over the liver and the tenderness had much increased; bowels had been evacuated—the dejections being hard and light colored; tongue as before; night sweats continue; stomach irritable; shooting pains in the right side.

Prescribed light nourishment and tonics; to keep the bowels open with saline cathartics.

Nov. 1st. Patient much weaker; pulse only 50, when not excited by stimulants. The local tenderness has increased; the swelling is very prominent; sweats continue; has had slight chills at times; bowels obstinately constipated; emaciation rapidly progressing.

Flax-seed poultices to be applied over the hepatic region, and renewed every three or four hours; patient to lie as much as possible on the affected side, to favor adhesion; brandy to be administered as a stimulant, with fifteen drops of elixir vitriol at bed time.

Nov. 5th. Patient's strength remains as before, and an evident pointing of the abscess below the ribs; tenderness gone; fluctuation distinct and extending over a large circle on the most prominent point; sensation of numbness and weight in the side. The pulse is kept at 80 by the stimulant.

Believing that the patient's strength would still remain good forty-eight hours more, and wishing to be certain of adhesion before operating, I decided to defer opening the abscess for two days more.

Prescribed as much nourishment as the stomach would bear, and stimulants, with elixir vitriol at night. To have his bowels moved by the morning of the 6th; also to continue poultices.

Nov. 6th. Found the patient in a very favorable state; bowels had moved; pulse 95 under stimulants; somewhat excited by dread of the operation. The pointing was now more distinct; and, believing adhesion to have taken place, and that farther delay was dangerous, I decided to open the abscess.

An abscess lancet was introduced at right angles to the direction of the fibres of the external oblique muscle, and withdrawn by a turn half round to bisect the internal oblique, making a semicircular opening. Immediately on the withdrawal of the instrument, a stream of very fetid, greenish pus followed, and continued running rapidly until three pints were discharged. While the abscess was discharging a band was drawn tightly around the body, to aid in maintaining a pressure on the side, and that the contents might be more completely expelled. As soon as the discharge ceased a tent was introduced into the opening, with directions to remove it at night, that the accumulated pus might flow out, after which it should be replaced.

Prescribed tonics and stimulants, with light diet, and an anodyne in the evening.

Nov. 7th. Patient doing well; discharge still continues freely. Advised a more nourishing diet, mild cathartics (Seidlitz powders), anodynes at night; continue the use of the tent.

Nov. 10th. Found patient much improved, able to sit up an hour at a time; countenance animated; appetite good; bowels acting with indications of the presence of bile in the evacuations; abscess still discharging pus of a healthy appearance. Prescribed as before.

Nov. 17th. Find convalescence rapidly progressing; able to sit up most of the time; doing well every way; some discharge from the opening, which I instructed him should not yet be allowed to close up, but be kept open still by the tent; and, with general directions as to the future care of himself, I dismissed the case.

From that time to the present (May 1854) I have seen Mr. C—— quite frequently. He enjoys as good health as ever in his life, and complains of nothing but a sense of adhesion in his right side, "a sort of stiffness," to use his own words. For more than a year there was a slight purulent discharge at times.

In the above account, I have omitted the minutiæ of doses, since every intelligent physician will of course be governed in this particular by the circumstances of the case.

Fifteen Selected Cases of Operative Midwifery. By AUGUSTUS K. GARDNER, M. D., Instructor of Midwifery and Diseases of Females in New York Preparatory School of Medicine; Member of Am. Med. Ass., Fellow of N. Y. Acad. of Medicine; N. Y. Therapeutical Soc., &c.

Since my last report in the American Journal of Medical Science, Philadelphia (July 1852), the following cases have occurred in my practice, which may not be without interest to your readers.

Painless labor. May 12th, 1853.—Was called at 5½ A. M. to Mrs. P., with her second child. Labor commenced at 3, A. M. Found the membranes intact, os almost fully dilated. Ruptured the membranes, contractions ensued, and at 8½, a large boy was safely delivered, vertex presenting in 1st, of Baudolocque. During the entire labor Mrs. P. felt no pain or suffering, except a very trivial pain as the head passed through the vulva. She said that she felt none with her first child. She felt a sensation at the approach of the contraction, and expressed herself rather fretfully, "O dear! there is another pain coming!" But why do you complain? I said, you suffer none. "I know it," was the reply, "but it makes me so hot." The bearing-down efforts were as forcible as in ordinary cases.

Delivery by Forceps. May 30th.—Was called at 12½, A. M., to Mrs. R. with her second child; the first delivered by craniotomy. Os admitting the finger; at 6 the membranes fully dilated, and the head descended into the basin, vertex presenting in first, of Baudolocque, where it remained impacted till 1, P. M., when, with the concurrence of Dr. John H. Griscom, I applied the forceps, and a plump girl was safely delivered. The placenta was attached, and was peeled off with some difficulty. Both did well.

Breech Presentation. May 31st.—Was sent for by Dr. Bishop to Mrs. ——, with her first child; the head presenting; sacrum to left iliac, where it had remained for several hours. Advised use of blunt hook, which was skilfully and successfully done; and by the aid of forceps to the head, a fine boy was safely delivered.

Craniotomy, Deformed Pelvis, Prolapse of Cord, and the Delivery effected after unusual rotation of head and body. June 9th, 1852.—Was called at 3½, P. M. by Dr. Anderson, to see Mrs. S., 126 Wooster street, in labor for several days, but severely since 1, A. M., the preceding day, under the care of a midwife. At 9, A. M., Dr. A. was sent for, and found the cord prolapsing since 6, A. M., and without pulsation. When I saw her the os uteri was not entirely dilated, the head presented, but the presentation was not distinguishable. I advised pulv. sec. cornut, ʒ j. quaque horâ, as the pains were slight.

At 10½, P. M., there being no change, I proceeded to perforate the cranium. This was effected after unusual difficulty. The head was high up, almost beyond the reach of the finger; and without depressing forcibly the perineum, the perforator would strike the promontory of the sacrum, which projected so as to diminish the antero-posterior diameter of the superior strait, to about 3½ inches. There was also danger of injuring the imperfectly dilated os uteri or the parietes. The craniotomy forceps were then applied, which after bringing away many of the cranial bones, finally succeeded in delivering the base of the skull, and the remaining portion, making a half-rotation in its descent.

After the head was thus delivered, I found one shoulder upon the perineum, but some inches distant from the orifice of the vulva. I passed a blunt hook under the axilla; and by strong traction upon it and the head, the arm was delivered, rotating in its descent, so that when it appeared into view, it was under the pubis. The other shoulder was then towards the perineum, and was in the same manner delivered, also rotating under the pubis.

Vigorous efforts were requisite to deliver the abdomen, somewhat tumefied; and again for the pelvis, which likewise effected another rotation in its exit. The placenta was soon delivered, and the mother put to bed very comfortably. She had had two children previously, one at seven months, and the second at full time, dead, after a week's labor.

The child was a male of about 7½ to 8 pounds. The perforation was made through the anterior fontanelle; and the position appears to have been, the forehead to the right iliac, anterior, which might have proceeded to a face presentation. The rotations were all in the same direction, from left to right.

Turning Successful with the aid of Chloroform. June 26th.—Was called by Dr. Simmons to Mrs. ——, 40 Elm street, under the care of Mr. Dubois, student of medicine, who saw her first at 4, P. M., when the membranes were ruptured, and the hand presenting. He immediately sent for Dr. S., and I was there at 7½, P. M. Found the hand external, and also the cord pulseless and cold. The head was in the left iliac, and the thumb of the left hand to the sacrum of the mother. The pains were exceedingly vigorous. Placing the woman upon the back, we proceeded to administer chloroform, and succeeded in introducing the left hand; and, after being obliged to withdraw it several times, on account of the great pain consequent upon the contractions, I succeeded in bringing down the foot, and subsequently turning. I then applied the forceps to the head, and a small female child was safely delivered, of course dead. This case is worthy of note for the exceeding usefulness of chloroform in overcoming the very strong contractions of the uterus, so as to admit the hand; which was not effected till the woman was in a more complete state of anæsthesia than I usually find it necessary or prudent to place them.

Case of Difficult Labor, showing the relaxing properties of Opium, without arresting or diminishing the force of the pains. Sept. 24th, 1852.—Was called by Dr. Simmons to Mrs. L., 101 Sullivan street, 37 years of age, with her first child, at 8, A. M. She was then forty hours in labor. Found the os dilated to the size of a tea-cup top, and child presenting breech; sacrum to left iliac. The membranes ruptured at 4, P. M. the preceding evening. I advised the administration of opium; and, in divided doses, by 11½ o'clock, A. M., sulph. morph. grs. ij. were taken without checking the pains, although materially relaxing the parts. At 6½, P. M., with tremendous pains, the head rested upon the perineum of the mother, when, by aid of the blunt hook in the groin, and assistance to the after delivery, a fine boy was safely delivered; who after being immersed in warm water with frictions, &c., breathed in the course of a few minutes, and afterwards did well. The mother convalesced rapidly.

Puerperal Convulsions, followed by coma and complete paralysis—Delivery effected by craniotomy. Feb. 1st, 1853.—I was called by Dr. Cleaveland at 8, P. M., to see Mrs. Thebault, a colored woman, æt 25, in her third confinement, and, as I was informed, at the full time. Once the child was still-born, and one child had died of convulsions. She had a fall some two weeks since, but had noticed no unpleasant results consequent.

About 1, A. M., after a restless night, her groans awoke her husband, who "found her in a fit." She soon recovered, spoke, &c. Pains in abdomen immediately supervened. Soon after, on getting up for some water, she fell senseless, and from that time she had remained in that condition. Dr. C. was sent for at 6, A. M. Os undilated. Gave ol ricini, which operated freely; applied cold to her head; as the pulse was very small, did not bleed. When I saw her at 8, A. M., she had remained senseless during the day in a state of coma, with convulsions every fifteen or twenty minutes. On examination *per vaginum*, the os barely admitted the finger (exciting strong pains), but long, thick, and rigid. I proceeded to rupture the membranes, the head presenting. This, however, had no evident effect upon her or the uterine contractions. Advised venesection. This was attempted in each arm, with an hour's interval; but the veins being small, they bled very slowly. Perhaps 1½ pints were obtained from both, with some relief, but one fit occurring during this time. During this period the os had dilated to the size of a dollar. Still remaining comatose, at 10, P. M., I proceeded to diminish the head, Drs. Cleaveland and Levings being present, and agreeing that this was the most advisable course. Through this undilated os the operation was not easily effected. By the aid of craniotomy forceps, a small child, not apparently more than six months, was soon delivered. Coincident with the delivery, the convulsions ceased.

Feb. 2d. The comatose state still remains; but she swallows what is put into her mouth, and moves the muscles of the face when blown upon. The limbs and head are perfectly motionless.

3d. There is no change perceptible. Pupils of the eyes are much contracted, and are insensible to the light. Has swallowed a half-pint or more of toast and panada water. Bowels have moved, and has urinated freely. Is moist with perspiration.

4th. Continues the same, has drawn up right arm. Is constantly gaping.

5th. Still unconscious and immovable. Has opened her eyes, and the right leg is found to have its position changed. Drinks arrow-root freely.

6th. Has consciousness partially restored; speaks somewhat unintelligibly, and occasionally in a rambling manner; complains of pain in legs, arms, and back; wishes to be turned over. Has little sensibility; does not feel the prick of a pin in her legs or arms, except the right arm.

8th. Moves the right arm with some freedom; the toes of right foot a very little. The whole left side continues immovable.

10th. Slight action of toes of left foot.

13th. Gradually improving.

After the lapse of a fortnight from this time this woman was able to get up—gradually she resumed her usual powers. In June following she still limped a little in walking, and had not entirely recovered the strength and use of left arm and leg.

I do not know of any case of puerperal convulsions where the paralysis subsequently remained so long as this; and on that account I have narrated it more particularly than might otherwise be advisable. A week after her delivery the urine was tested, and no trace of albumen was found.

Rigidity of the perineum, from the cicatrix of previous ruptures, impeding delivery, and rendering instrumental interference necessary. April 2nd. Was called at 8, A. M. at the request of Dr. Kennedy, to see Mrs. M——, with her third child. The first was delivered, after four days' labor, with forceps; in which she says the perineum was ruptured nearly into the anus. The second child was speedily delivered—the Dr. in attendance, as she reports, breaking a band that constricted the passage, with his fingers, and which he said would require to be done at every future labor. She reports herself as remaining sore for two or three weeks.

Dr. K. had been with her since 1, A. M.—the membranes having ruptured two hours earlier. On examination I find the vertex presenting in the first position of Baudelocque. The head had nearly entered the lower strait, but was prevented by a firm band, evidently the cicatrized perineum. It was judged best to divide this constriction, which was apparently not more than a half-inch in width, and stretching between the tubera ischii. This division was made upon each side. At first it appeared as if this would suffice to allow the head to pass; but as it descended, new bands, equally firm as the first, rose before it. After waiting an hour and a half, during which the pains were very strong and frequent, without noticing any farther advance, and the hæmorrhage being considerable, I applied the forceps, and subsequently the blunt hook to the arm next the perineum, and safely delivered a large girl, crying lustily. There was no perceptible laceration of the perineum. Mother and child did well.

Rigidity of the perineum; delivery by forceps without the slightest laceration of the fourchette, in primipara. June 7th.—Was called by Dr. Simmons to Eliza, æt. sixteen, with her first child. She had been in labor fifty-six hours after the rupture of the membranes; and for the last eight hours no advance was perceptible. Applied the forceps and extracted, with some effort, a large and vigorous female child, without any, even the most trivial, laceration. Mother and child did well.

Arm Presentation. Turning. July 24th.—Was called by Dr. Simmons to Mrs. ——, with her fifth child, at the eighth month, at 5, P. M. The membranes had ruptured at 8, A. M. Found the left arm presenting, thumb to pubis. Introduced my hand, and finding one foot, brought it down, then the other; and in about five minutes the child was delivered—the body and head being delayed in the vagina—almost lifeless. By inflating the lungs and frictions for some minutes, it revived; and both mother and child subsequently did well.

Case of Craniotomy. July 27th.—Was called at 11½, A. M. to Mrs. McLaughlin, with first child; in labor since evening of 24th, in the care of a midwife. On 26th, at eve, Dr. Griswold was called. Woman had felt no movement since noon. Gave ergot, without relief. Dr. H. W. Brown was called, early in morning of 27th. I found the labia much swollen and inflamed; limbs œdematous; vertex presenting, low down in the inferior strait, first position; the child evidently dead; the lochia scanty and offensive. As the forceps would probably seriously injure the mother, I advised craniotomy. After the head was punctured, the catheter was introduced—impossible before diminishing the pressure—and about a pint of very high-colored urine was evacuated. With the crotchet and craniotomy forceps, the child, a medium-sized boy, was easily delivered. The placenta was delivered by introducing the hand. There was a slight laceration of the perineum. Patient did well.

Rupture of the uterus; deformed pelvis; delivery by turning; post-mortem examination. August 4th, 1853.—Was called at 11, A. M. to Mrs. Sweet (1st av. and 17th st.), by Dr. Anderson.—Her previous confinement, delivered by craniotomy, is recorded as the fourth of this paper.—She had been in labor since Monday, 1st. Membranes ruptured at 4, P. M. of that day. Pains, however, slight till Wednesday evening, when she sent for Dr. A——, at 10, P. M. Being engaged, he did not see her till Thursday morn, at 10, A. M., when he immediately came for me.

When I saw her, her appearance was exceedingly bad; a hollow, ghastly look, and changed expression of countenance, indicated serious difficulty. When I heard that the pains had been strong all night, but suddenly, almost entirely ceased, about 6, A. M., and that "she took a change" at that period, I suspected rupture of the uterus. On examination, abdomen was found very tender, but not tumefied. I immediately had her placed in position upon the back, and, examining, noted a constant flow of semi-putrescent and grumous fluid. The head was found presenting, but so far distant, and as it were anterior to the pubis, as to be felt with great difficulty. Introduced my hand without trouble, and encountered a flap, which I supposed to be the elongated anterior uterine neck. Being unable to move my hand freely, on account of the narrowness of the antero-postero diameter of the superior strait—so great as to press painfully on my wrist (which is 2¼ inches in its long diameter)—while rotating my hand, I withdrew it. On so doing, the uterine contraction was so powerful as to eject the blood to a distance of two or three feet.

On introducing the left hand, and passing it within the before-mentioned lip, I found the placenta detached, and the occiput in the left iliac fossa. Finding one foot, I immediately brought it down; the other followed, and in a few minutes the child was delivered, semi-putrid: the shoulders and head were delivered with some difficulty. The flattened appearance of the head, showed plainly the great pressure to which it had been subjected prior to the rupture of the uterus. The placenta was immediately discharged, and firm uterine contraction followed.

After delivery the patient was exceedingly prostrated, and complained of a sinking feeling, which some brandy partially relieved, and she soon fell into a sleep. Pulse 148, and soft. She had but little change in appearance after this; and those around supposed that she would convalesce, till suddenly, at 6, A. M. of the ensuing day, Friday, she expired.

Postmortem, by Prof. J. C. Dalton.—Abdomen somewhat tumified, and resonant on percussion. On opening, slight peritonitis, and a small quantity of lymph on the peritoneal surface of uterus, ovaries, and appendages. The uterus, &c. were removed, and on the anterior surface, immediately in relation to the pubis, a rent was discovered, filled with clots of blood, six inches in length, and almost severing the cervix from the body of the uterus.

On measuring the diameters of the superior strait, the following was obtained:

Antero-postero diameter,	$2\frac{7}{8}$	inches.
Transverse "	$4\frac{1}{8}$	"

The uterus was removed, and is now at the rooms of the Preparatory School.

Presentation of cord, deformed pelvis, and excessive flooding after delivery. October 2d.—I was requested by a medical gentleman to take charge of a patient some hours in labor, with the cord presenting; and the following are the particulars. Mrs. C. (35th st.), with her sixth child, all previously still-born, extremely anxious for a living offspring.

On examination, I found the cord almost protruding from the vulva, the os entirely dilated, and the feet presenting. I immediately introduced my hand, and carried up the cord out of the way of all pressure, and brought down the feet. At the same time, I discovered a diminution of the antero-postero diameter, though not great. Pains coming on speedily, the hips and body became engaged in the pelvis, and were easily delivered, but the shoulders and head offered much resistance; but in about ten minutes the child was delivered, the heart still beating. It was immediately put into a warm bath, the lungs inflated, and a half teaspoonful of brandy swallowed, &c. It gasped several times, and had some convulsive movements, but soon expired, in consequence principally, as I conceived, of hæmorrhage from the placenta; a large clot of blood covered its scalp when delivered. The uterus immediately firmly contracted, expelling an immense quantity of clots; and then, with alternate contractions and dilatations of the uterus, commenced one of the most terrific hæmorrhages I have ever witnessed. This continued for two hours, at intervals arrested by fainting. Six ounces of tinct. secal. cornut. were given with brandy; ice applied to abdomen, introduced into the uterus; alum in large pieces passed into the vagina as far as the cervix uteri, and finally the tampon applied, and a swathe over the abdomen, so arranged as to prevent subsequent dilatation of the uterus from internal hæmorrhage, and to depress the descending aorta in some measure. Although at several periods, from the absence of pulse, of apparent respiration, and the cold, clammy sweat, I thought life had fled, she yet rallied, and finally recovered. On the eighth day subsequently, after taking a small portion of oil, she had a secondary hæmorrhage to some extent, producing temporary faintness, but which was checked by the administration of ergot.

Post-partum hæmorrhage repeated in the same female at every confinement. Oct. 7.—Was requested by a medical gentleman to assist him in attending his wife with her fourth child. In two previous labors—the first still-born—she had nearly sunk from after-flooding. There was nothing peculiar in the labor. Pains had commenced in the morning, but as the os was undilated, Dr. B—— gave an opium suppository, which quieted them till evening; when the os was nearly fully dilated, and the labor commenced. At about 11, P. M., with a few vigorous pains, a fine boy was safely delivered. Coincident with the expulsion of the child, I followed the uterus down with my hands, and immediately applied a bandage. Good contraction followed. Expulsive pains soon delivered the placenta. When the head of the child rested upon the placenta, tinct. sec. cornut. ℥ ss. was given, most of which was supposed to have been subsequently vomited. This was repeated before the placenta was expelled.

After the delivery of the placenta, fair contraction followed, and we hoped that no hæmorrhage would follow. But soon, without perceptible change in uterus, a slight oozing was noticed, which rapidly increased to a fearful extent, till—pulseless, cold, and vomiting so obstinate as to expel every thing from the stomach—the state of the lady was very precarious. Ergot, ice to abdomen in the vagina, seemed useless. The uterus, alternately expanding, filling up, and contracting, expelled gush after gush of blood. Tinct. mur. ferri, gtts. xxx. were given, and alum in large pieces passed into the vagina, when the flooding ceased; and after some days Mrs. B—— slowly recovered her strength and usual health.

It is highly desirable to know if this repeated *post-partum* hæmorrhage is dependent upon any uterine disease, from any peculiarity in the insertion of the placenta, or solely in an idiosyncracy resulting in the want of nervous action.

Abortion at the fourth month, accompanied by excessive hæmorrhage,—instrumental delivery of the placenta.—Oct. 9th. Mrs. M——, in stepping from her carriage some years since, received a slight jar. She was daily expecting her third confinement. Pains soon came on, and during the next day a large child was delivered, evidently not long dead. The cord was drawn around its neck so tightly, that suffocation was apparently produced by the slight stumble. Some two years subsequently, she aborted at about the third month.

Upon this occasion, she had for several days been threatened with miscarriage. Three or four weeks previously, she had a slight discharge of bloody mucus, which, with rest and care, passed away. Upon its reappearance, attended with a full pulse and some headache, she was bled and kept quiet. This again arrested the slight secretion temporarily; but it soon increased, though but little more than at first. It being supposed by her medical attendant and myself, that this oozing came from fissures in the os, or ulcerations, it was arranged to pencil them (if found) the next morning with nit. argenti.

She was, however, suddenly taken with most profuse flooding the next morning at six o'clock, accompanied by pains; and almost immediately a fœtus of about the third month was expelled. Her medical attendant was then sent for, and arriving at 7, A. M. found her blanched and almost pulseless. He speedily tamponed the vagina, administered stimulants, ice to abdomen, &c., and counselled sending for me. Owing to some delay in my coming, an eminent obstretician was also summoned. On my arrival I gave ℥ ss. tinct. ergot. Brandy had been freely taken, but constantly vomited.

The state of the lady was extremely critical. I doubt if I ever saw so exsanguinous a female from uterine hæmorrhage. Excepting a slight dribbling of blood, the flow was now (9, A. M.) arrested. Upon consultation, it was deemed advisable to do nothing further. At ten o'clock it was judged advisable to carefully remove the tampon, and examine as to the condition of things. This was done, and the uterus found firmly contracted upon the placenta, the os just admitting the finger, hard and rigid. We judged it unsafe to rely upon the efforts of nature to deliver the placenta, extremely hazardous to permit it to remain and putrefy or become absorbed. The fragility of the cord admitted no traction upon it. Upon the membranes protruding, but little extractive effort could be made. I advised the introduction of a long pair of polypus forceps through the hard and firm os, to seize the placenta and bring it away. This was accordingly attempted, The instrument was carefully introduced, so as not to injure the soft parts or seize upon the os uteri, several portions of the placenta removed, and finally, the entire mass completely withdrawn. No hæmorrhage accompanied or followed this operation, one which I have since seen obscurely hinted at in some foreign works on obstetrics, but of which I have yet to see a reported case either in Europe or this country.

The condition of the patient was for several days extremely precarious. With no subsequent hæmorrhage or inflammation from the anæmia consequent upon such a complete draining of the fluids of the body, her appearance was cadaveric, pulse rapid and feeble, accompanied by lightness in the head and faint sensations, increased upon the slightest movement. From this extreme prostration, by the most careful nursing and attention which wealth or friendship could give, she finally recovered, although at this present time (Feb.), four months since, she still feels debility and great fatigue upon slight exertion, inability to walk any distance, showing the great shock given to her constitution.

Subsequent vaginal examination with the speculum, has confirmed the diagnosis of disease of the os, which was found fissured, congested, and hypertrophied, its tissue more dense and unyielding, and unaccompanied by leucorrhœa or other observable and ordinary symptoms.

New York, 141 *East Thirteenth Street*,
January, 1854.

Cathartics in the Treatment of Enteritis. By O. C. Gibbs, M. D., Perry, Lake County, Ohio.

The term enteritis, as applied to disease, is used so differently by different writers as to require specification when the subject of therapeutic remark. Some have restricted this term to inflammation of the mucous membrane of a *part* or *whole* of the intestinal tube, thus making diarrhœa one of its prominent symptoms and its pathology more or less identical with dysentery. In the following remarks, I shall use the word as synonymous with that more expressive, though perhaps less scientific phrase, *inflammation of the bowels*—a disease that may involve any portion of the intestinal canal or its corresponding investing or lining membranes, and is usually accompanied with constipation.

However much we may know, study, or speculate, about the minutiæ of pathology, our knowledge, study, and speculation have one primary object in view, and that object is the best method of removing the various pathological conditions which we call disease. That object is by no means of easy attainment; for physicians of equal intelligence and experience frequently deduce widely different therapeutic indications from the same pathological conditions. We may take any number of standard authorities, upon either of the practical departments of medicine, and diligently compare them; and in however much they may agree, we will occasionally find their therapeutic directions to be strikingly unlike. The disease under consideration presents a striking example of this authoritative discrepancy. Some writers, foremost among whom, in this country, may be mentioned Professor Wood, of Philadelphia, recommend at the outset a thorough cathartic, followed by the daily administration of some mild but efficient laxative. Others, among whom Watson and Dunglison may be mentioned, repudiate cathartics and laxatives altogether, until the inflammation is more or less completely subdued by the efficient administration of anti-inflammatory remedies. Believing the former to be erroneous in principle and dangerous in practice, I propose a few remarks in advocacy of the latter.

In inflammatory diseases an almost uniform set of remedies have been put in requisition; among which cathartics, though not paramount, are yet quite conspicuous. It is not surprising, then, that they should have been considered appropriate in the disease under consideration, being essentially one of inflammation; and more especially as obstinate constipation is one of its most characteristic symptoms. And even where there are doubts in the mind of the practitioner, in reference to the propriety of such medication, it requires a good degree of decision and firmness of purpose to pursue an opposite course, in the very face of the earnest importunities of friends, seemingly regardless of the very source of all their solicitude. Patients and their friends look upon the attendant constipation as the very cause of suffering, and are importunate that that symptom be removed; and, unless instrumentalities are made use of with that ostensible object in view, dissatisfaction is the result with all its unpleasant consequences. But with the scientific and conscientious practitioner, the therapeutic opinions of those unlearned in medicine are counted as nothing; the question simply being, what plan of treatment offers the patient the best chance for a speedy and perfect recovery?

In inflammation of the brain or its membranes, we studiously avoid all sources of mental excitement; and, in carrying out our therapeutic indications, we wisely prohibit all cerebral excitants, whether medicinal or regimenal. In inflammation of the lungs, much talking or exercise of any kind that would increase the frequency and force of respiration, and all stimulants that would excite the action of the heart and consequently increase the labor of the lungs, are wisely and peremptorily forbidden. In inflammation of the stomach, all medicines as well as food and drink that can act as irritants to that organ are carefully abstained from and positively prohibited. So also, with all other diseases of an inflammatory character; all excitants, whether they act by increasing functional labor or as positive irritants, are carefully avoided. The same principle that aids in determining the therapeutic indications in the diseases mentioned, should and does hold good in enteritis.

Purgatives, in the early stages of the disease under consideration, can only act as irritants. The primary action of all cathartics is one more or less of irritation, and in their secondary or legitimate effects, by increasing the peristaltic motion of the intestines and the consequent friction and tension of the parts inflamed, their irritative action is more plainly perceptible. Should they be rejected by the stomach, as they often are, the muscular effort consequent upon vomiting must bring the inflamed parts into sudden exercise, producing no small amount of irritation without any corresponding benefit. And should they be retained without operating, it requires no great amount of acumen to perceive that the effect must be decidedly injurious. Hence, we must conclude that cathartics should not be administered in this disease, until the inflammation has been subdued by other and more appropriate means. This was the opinion of Dr. Abercrombie, when he wrote, "I confess my own impression distinctly to be, that the use of purgatives makes no part of the treatment of the early stages of enteritis; on the contrary, that they are rather likely to be hurtful until the inflammation has been subdued."

It may be asked, Should it take a week or more to make a decided impression upon the disease, should the bowels be allowed to remain confined during the whole of this time? I would answer most emphatically, Yes, so far as the administration of purgatives is concerned. The lower portions of the bowels may be evacuated by copious warm enemata; but more than this any interference in this respect seems to me to be productive of more injury than benefit. My limited experience in the early administration of cathartics in this disease leads me to the conclusion that, though they be retained and operate, yet they fail to do so as *fecal* evacuants, and consequently disappoint the only justifiable indication for which they are administered. The late Professor Watson says upon this point,—"It is an instructive fact, that when purgative medicines do operate during the height of the inflammation, the stools they produce are merely watery; and it is only after the inflammation has been reduced that *feces* are discharged."

The first case of enteritis that came under my observation, by no means increased my faith in the utility or propriety of cathartic medication. I commenced the treatment with venesection, followed by calomel and opium in repeated doses as general remedies, and for local treatment warm fomentations to the abdomen; and an occasional warm enema was advised. This treatment hardly satisfied the friends, who considered the constipation the *cause* of suffering and not the *consequence* of disease, and hence supposed cathartics the only necessary and justifiable remedies. Being a stranger in the family and inexperienced, to protect myself and satisfy friends, I called counsel in whom they had unlimited confidence. He advised a cathartic, to be administered immediately and repeated at proper intervals until catharsis should be produced. I gave my reasons for preferring a different course; but he strenuously insisted upon a cathartic, and I reluctantly yielded to his age and experience what I could not to his arguments. Castor-oil and turpentine was the cathartic selected. The patient grew worse from its administration; and after the third dose copious watery evacuations were produced, and they continued at frequent intervals without abatement, until convulsions and death put an end to suffering.

The only other fatal case of idiopathic enteritis that has occurred to me, was one in which purgatives were administered. The patient had been treated for six days by a homœopathist, and was getting gradually worse, when I was called to the case. Of course no harm had been done by cathartics; but the inflammation had received no check, and the patient was suffering extremely. Calomel, opium, fomentations, and enemas, were the agents summoned to her aid; and after twelve hours of medication, she seemed comparatively comfortable and was quite hopeful of recovery. The distance which this patient resided from me, rendered it impossible for me to attend except as consulting physician. Hence, a physician of mature years, extensive experience, and enviable reputation, was called to coöperate with me in the case. He insisted upon cathartics. A third physician was called, who concurred with him in opinion. I yielded a reluctant consent, and calomel and castor-oil were administered and repeated until catharsis was produced; but the patient got gradually worse and died.

Such other cases as have come under my observation have been treated without cathartics, and have uniformly recovered. It is true, my experience in this disease has been quite limited; yet, such as it is, it aids in some measure to confirm the correctness of the therapeucia here feebly advocated, and it is only because I have thought cathartics too generally resorted to, and often perniciously, that the present paper has been written.

The following treatment seems to me best adapted to meet the indications, and aid nature in the removal of the disease. In the earlier stages blood-letting should be performed, and liberally, unless decided sinking of the pulse during the flow of blood should contra-indicate. The bleeding should be repeated once or more, if a decided impression is not speedily made upon the difficulty, providing evidences of exhaustion do not supervene. After the bleeding, calomel and opium should be administered perseveringly until the system is under the influence of the combination. Calomel seems capable of accomplishing what any medicine can in arresting the inflammatory action; while opium allays pain, relaxes spasm, and lessens the peristaltic action of the inflamed bowels. The sedative effect of the opium seems of paramount importance. Would we arrest inflammation in any organ or tissue, irritation and friction should by all means be avoided. Under the influence of opium, quiet, rest in a horizontal position,—and the coädaption of inflamed surfaces is easily secured. Calomel two grains, opium half a grain to a grain, every two hours, are appropriate doses for an adult.

In addition to the foregoing, leeches, where they can be had, should be applied freely to the abdomen subsequent to bleeding from the arm; and these should be followed by the assiduous application of emollient cataplasms or warm fomentations. The fomentations or cataplasms should be steadily continued for three or four days; after which, should the disease still persist, a large blister should be applied to the anterior surface of the abdomen. Warm enemata should be occasionally given throughout the disease, which evacuate the lower portions of the intestines without increasing irritation. Simultaneous with the manifestation of the mercurial impression, the disease usually begins gradually to abate; and when improvement has considerably progressed, should the bowels not move spontaneously, a laxative dose of castor-oil should be administered, combined with a small dose of laudanum.

Some standard authorities advise giving calomel, with a view to the mercurial impression, only after the third or fourth day of the difficulty, other remedies, in the mean time, having failed to produce a favorable impression. But if calomel is capable of arresting the inflammation *after* three or four days of unmitigated progress, it is certainly capable of doing it with *more certainty* and safety when early commenced with. And there are no pernicious effects following its judicious administration at all to be compared with the risk of delay. Three or four days of uncontrolled disease may work changes that no subsequent medication can ever repair. It may be a laudable ambition to conform in some measure to the too common, blind, quack-engendered prejudice, and resort to so powerful an agent as calomel in the event only of failure of other means. But in inflammation of vital organs or highly important structures, this delay is many times dangerous, serving to protract the difficulty, rendering the success of subsequent treatment more problematical, and a fatal termination more probable. In one or two instances I have made use of lardaceous applications to the abdomen, beneath the poultices, with how much additional advantage, if any, I am unprepared to say; but probably such applications are equal in efficacy to the warm, fresh-flayed sheepskin, applied and recommended by Baron Larrey. The effects of the judicious and persevering administration of the above treatment, in connection with a rigid adherence to the horizontal position, liquid diet, and mucilaginous drinks, would doubtless, on trial, surprise those who have been accustomed to using cathartics, not only at the commencement, but occasionally throughout the disease.

The foregoing remarks have reference to idiopathic enteritis. The treatment detailed is far from being new, having been long taught and practised by the first names in the profession; but its importance and seeming neglect will doubtless justify this repetition.

On Placenta Prœvia. By Henry G. Cox, M. D., Physician-Accoucheur to the State Emigrants' Hospital, and Clinical Lecturer on Obstetrics and Diseases of Children in the same Institution.

Of all the incidents that occur to the parturient woman, there are none more appalling than the unavoidable hæmorrhage, caused by its separation when the placenta is implanted over the os uteri; none in which the calmness and judgment of the accoucheur receive a severer test. Happily, art is enabled here to perform what unaided nature is incompetent to accomplish.

From the history of placenta prævia, it appears to have been observed at a very early period. Hippocrates mentions the occasional descent of the after-birth before the child, and the danger to which its life is thereby exposed.

The first impressions entertained were, that the placenta had become detached from its usual position, and had fallen over the os uteri. Guillemeau, a disciple of Ambrose Parè, Mauriceau, Bracken, and Pugh, all seem to have embraced this view; but Portal distinctly stated that the placenta was implanted over the os uteri. Gifford, Smellie, and Levret were also aware of this fact; but it was not until Smellie's time, that the profession generally received this explanation of the cause of the difficulty. Dr. Rigby, in his classical production on the cause of uterine hæmorrhage in the parturient female, placed the subject in a practical and correct light before the profession, and deserves the merit of having attracted additional attention to it.

It will not be necessary to detail here the symptoms attendant on this mal-position of the placenta, but simply to advert to the fact, that the hæmorrhage occurs after the fifth month, more generally between the sixth and ninth months of pregnancy, from the unfolding or developing of the fibres of the cervix uteri, which necessarily produce a separation of the placenta from its attachment to the upper portion of the cervix. A gush of blood frequently occurs, without any previous warning, during the last week of pregnancy, or at the time of the accession of the first pangs of labor.

The placenta may either partially present, or it may be centrically inserted over the os uteri; in the former, delivery of the child is often effected without interference; but in the latter, the case should never be left to nature.

The source of the hæmorrhage has been accounted for by obstetric writers of authority in three ways.

1st. That it proceeds from the uterine sinuses; of which Dr. Lee may be regarded as the peculiar exponent.

2d. That it arises from the detached portions of the placenta, and but slightly from the uterine veins; of which Dr. Simpson is the advocate.

3d. That it takes place alike from the uterine sinuses and the placental caverns, which is the theory of Dr. Radford.

Recently, experiments have been made by Dr. Mackenzie, aided by Mr. Sharpey, by which he thinks it has been demonstrated that the hæmorrhage arises from the arteries of the uterus, and a very inconsiderable portion, if any, from the placenta. His experiments and conclusions will be quoted as we proceed.

The mode of procedure recommended formerly in all cases of perfect placenta prævia was, that, as soon as labor had sufficiently progressed—if the os uteri were dilatable, and the woman failing from the loss of blood—the placenta should be separated from its attachment so far as to permit the introduction of the hand to rupture the membranes; the feet to be brought down, and version effected, where the head presented, and the child delivered; or, as some recommended, to pass through the placenta, turn, and deliver; but as the danger to the child was much increased by this mode, and the difficulty of penetrating a thick, unresisting body, as the placenta is, under such circumstances, added to that of the small opening through which the child must necessarily be drawn, this lattter has had but few advocates.

In cases of partial placenta prævia, nature being often found competent to effect the delivery without loss of life to the child or mother, plugging alone has been resorted to in many such with success; the head of the child, in its progress towards delivery, itself acting as a tampon to control the hæmorrhage; but, where the woman is sinking, turning is needed even in these.

The great mortality which has ensued in these cases—exhaustion, metritis, phlebitis, peritonitis, and irritative fever, the results of the loss of blood, or violence done at the time of version, having frequently followed the operation—has been observed by all accoucheurs of the largest experience, and has been the topic of sad regret and melancholy reflection to all obstetric writers. According to a statement of Dr. Lee, the rate of mortality has been about one in three of the mothers, and 65 per cent. among the infants.

This mode of delivery is still, however, practised and inculcated by many of the most distinguished accoucheurs of the day, among whom may be mentioned, Drs. Lee, Churchill, Ashwell, and others; and any departure from the established practice has been pronounced a dangerous innovation, to be accordingly reprobated.

Although it is in consonance with the safe and correct views of conservative science,—to admit nothing as true, until proven,—yet, in these days of progress, a fair hearing should be given to any feasible change which seems to promise a chance of a smaller mortality among the subjects of this terrible parturient complication.

And as an entirely different course is practised and recommended by such distinguished men as Drs. Simpson, Walter, and others, under certain circumstances, we should be influenced by the facts elicited from the accumulated experience of competent observers, and not controlled by any theory, however ancient may have been its origin, or great the names of its supporters.

Mr. Kinder Wood, of Manchester, in 1821, having lost in a fortnight three cases of placental presentation which occurred in his practice, and which he judged should have recovered, was soon afterwards called to a fourth, whom he found in an apparently moribund state. He dared not deliver the woman on account of her exhausted condition, and therefore, entirely separating the placenta, without rupturing the membranes, left it *in sitû*. The woman rallied; there was no more hæmorrhage; she was delivered by natural pains, and made a good recovery. This mode he afterwards pursued, and, in 1822, taught it in his lectures. It has since been practised by some accoucheurs in his neighbourhood.

Dr. Radford, in a lecture, delivered near the close of 1844, on galvanism as a means of arresting uterine hæmorrhage, recommended the detachment of the placenta in such cases; he and Dr. Simpson, of Edinburgh, having at the same time, but independently of each other, been pursuing similar investigations, arrived at the same results; and in 1845, Dr. Simpson, who has been especially identified with this new mode of treatment, published his views, which were, briefly, as follows: That in cases of placental presentation, the placenta should be detached, when rupturing the membranes is insufficient, and turning is inapplicable, or unusually dangerous; "I believe," he says, "it will be found the proper line of practice in severe cases of unavoidable hæmorrhage, complicated with an os uteri so insufficiently dilated and undilatable as not to allow, with safety, of turning; in most primiparæ; in many cases in which placental presentation is connected with premature labor and imperfect development of the cervix and os uteri; in labor supervening earlier than the seventh month, when the uterus is too contracted to admit of turning; when the pelvis or passages of the mother are organically contracted; in cases of extreme exhaustion, which forbid of immediate turning or forced delivery; when the child is dead; when it is premature or not viable."

This proposed innovation or departure from the universally established practice, of course arrested the attention of the profession; and soon after, at a meeting of the London Medical Society, the statements of Professor Simpson were discussed and criticised. Mr. Dendy and others were decidedly opposed to countenancing them at all; while Dr. Golding Bird and Mr. Crisp considered them worthy of further investigation and adoption, unless disproved.

Some obstetricians have regarded the expulsion of the placenta prior to the birth of the child as so exceedingly rare, that the report of a case has been looked on by them as unique in obstetric annals. Dr. F. Ramsbotham says, "Under a placental presentation, if the case were left entirely to nature, the bleeding would proceed, either as a draining or in gushes, until the successive faintings terminated in a mortal syncope; or—the os uteri dilating rapidly, and the womb acting vigorously—the head of the child bearing forcibly against the placental mass, might expel it first, and itself quickly follow; for it would be impossible for the child to perforate the placenta and pass through it; and it would also be unlikely that it should escape by its side, provided the mass were implanted centrally over the uterine mouth. A number of cases are on record in which the placenta was expelled before the child, in the manner I have just mentioned. Smellie has noted three, La Motte three, Lee three; my father has given three which came under his own observation, and two others communicated to him by friends. Baudelocque, Perfect, Merriman, Barlow, and Collins, each mentions a case. Hamilton had seen two. I have met with four, and others are scattered through the various periodicals. Although there is thus a possibility of a natural termination of the labor by the placenta passing first, and the child being expelled afterwards, it would be wrong to expect it or to wait for it, for the probability is, that the woman will bleed to death before the os uteri acquires a diameter sufficient to allow the passage of the placenta and child through it." From this it would be inferred, that all the above cases recovered.

Dr. Simpson has collected 141 cases in which the placenta was expelled before the child, either spontaneously or after artificial separation, in some of which, a considerable interval elapsed before the expulsion of the child; in others, both were expelled simultaneously, and in a large majority the hæmorrhage was altogether arrested. In five cases, only one of whom died, it continued so profuse as to alarm the attendants, and require special attention. Out of the 141 cases, but ten died, this being the mortality from all causes: in several, hæmorrhage had little or no connexion with the result.

He also says, that uterine hæmorrhage in partial detachment of the placenta, in any of the stages of labor, is not arterial in its character. "The utero-placental arteries are numerous, but so long and slender, as to be readily closed: 1st, by the tonicity of their coats; 2dly, by contraction of the uterine fibres upon the course of these vessels themselves, as they pass through and amid the uterine structure; 3dly, principally by the changes in their tissue produced by the mechanical rupture of their coats; torn arteries being little, if at all, liable to bleed, and the placenta being separated by a true process of avulsion."

Since the publication of Dr. Simpson's paper, separation of the placenta in cases of placenta prævia has been practised successfully in Great Britain, by many accoucheurs, and the cases been reported in the medical journals of the day. I have found also two reported cases in one of the journals of this country. The reports of Dr. Waller's cases are among the most interesting. He was at first strongly prejudiced against Dr. Simpson's mode of treatment; but finding the mortality in his practice, on review, had been very great, he resolved to try it when a proper opportunity should present itself. In 33 cases seen and reported by this gentleman, but 23 mothers recovered, although some of these deaths the doctor attributed to neglect on the part of the attendants. Subsequently, he reported 29 cases of the new practice, of whom only two died. In some of these cases the placenta was separated for hours before delivery; in one, in which the membranes remained unruptured, it was so for fourteen hours before the delivery of the child; no hæmorrhage occurred in any of them. Dr. Waller is not disposed to give a final opinion on the matter, as sufficient experience has not yet been accumulated; but he adds: "It has been attended with no increase of the injurious symptoms, but has been followed by their entire removal."

Dr. Lee, of London, opposed Prof. Simpson's views with much warmth, objecting to them on the ground that the mortality of the old practice had been exaggerated, that the older accoucheurs had never practised on them, and that the child must necessarily be sacrificed.

Dr. Churchill, although antagonistic to Prof. Simpson on this remarkable boldness of treatment, considers that the first averment is far from being proved; that the second would be equally an objection to any improvement, and that the mortality of the children in the ordinary mode of treatment is so great, that it is an insufficient argument on which to reject the operation. Dr. F. W. Mackenzie has recently put forth the results of some experiments made by him to ascertain the anatomical source of the hæmorrhage in cases of partial detachment of the placenta, which conflict with the opinion of Dr. Simpson and others, and which induce him to think that the hæmorrhage is almost wholly arterial. He states that he was led to believe that some light might be thrown on the subject by ascertaining experimentally the source of the hæmorrhage in an animal, whose placenta, like that of the human female, was both decidual and fœtal. A pregnant bitch was obtained at nearly the full term of gestation, the uterus exposed and opened, and the following observations were made: "1st. On separating the placenta, the blood flowed freely and continuously from the denuded uterine surface, increasing with the detachment, while none escaped from the detached portions of the placenta. 2ndly. That the blood which escaped from the uterus was distinctly arterial, being of a bright red color. 3rdly. That on rupturing a placenta, whilst still partially adherent to the uterus, a small quantity of dark, venous blood escaped from the part torn, but to a very trivial extent. We know, however," he adds, "that in the human placenta, the utero-placental arteries open into large cells or dilated capillaries, in the maternal portion of the organ, between which a free intercommunication exists; whereas in the bitch, the venous vessels of the maternal part of the placenta do not constitute a cellular or cavernous structure, but in form and distribution, resemble ordinary veins. These circumstances were particularly pointed out by Dr. Sharpey, to whom the results of the experiment were related."

In April, 1853, Dr. Mackenzie made a *post-mortem* of a woman who had died of uterine hæmorrhage, and found the placenta partially adherent. By the suggestion, and under the superintendence of Dr. Sharpey, "the uterus, which had been cut off above its orifice, was carefully inverted, and several loose coagula were removed from its interior. It had the appearance of being very exsanguine; and on the surface from which the placenta had been detached, the ramifications of the utero-placental arteries could be plainly seen, but free from any plugging or coagula; about a fifth of the placenta was still adherent. In the next place, the vessels along the cut surface of the uterus were secured by ligatures placed along the line of its division, and the hypogastric and ovarian veins were also secured by ligature. An injecting pipe was now fixed in one of the hypogastric arteries, and some defibrinated blood was steadily injected. The results of the operation were as follows: The blood escaped freely from the utero-placental arteries which had been torn across by the separation of the placenta; none escaped from the utero-placental vein, nor did any pass away from the placenta. The opposite hypogastric artery was then injected, and it was found, as with the other, that blood escaped freely from the torn utero-placental arteries, but none passed out of the utero-placental veins; whilst in this case, a small quantity escaped from the surface of the placenta, contiguous to that which was still adherent. The injection was repeated several times with the same results. The orifices of both arteries and veins were plainly visible, and carefully watched. It should be added, that the vessels were entirely free from coagula."

Dr. Mackenzie then arrives at these conclusions, as the result of his experiments: That the blood lost from partial or entire separation of the placenta, is not venous, but arterial,—having also noticed in a profuse flow of blood which occurred in a case of labor progressing under his inspection, that it was both arterial and venous in its appearance, as it passed over the vulva, the arterial predominating:—That in a physiological condition, the tonicity of the torn arteries may be sufficient to control the hæmorrhage, as asserted by Dr. Simpson; but that this tonicity, like every other vital property, is liable to be modified or affected by a variety of circumstances; that it may be enervated or exhausted by whatever may tend to enervate or exhaust the nervous and vascular systems.

Dr. Mackenzie also makes some valuable and pertinent suggestions on the treatment of patients prior to their falling in labor, in whom there may be cause to apprehend the occurrence of hæmorrhage; as that it may take place in two opposite states of the vascular system; in one from morbid excitement of the heart and arteries directly or sympathetically induced by functional derangement of the liver, &c.; in the other, from extreme depression of the circulation, dependent upon either atony of the vessels, or an impoverished state of the blood. Thus, in the first class, the condition of all the functions of digestion, &c., should be enquired into, and regulated; and in the other, such remedies should be used as will remove the anæmic condition of the patient, and restore the tone and energy which may be wanting by the nervous system.

As regards the bearing that the experiments of Dr. Mackenzie may have upon the feasibility of Prof. Simpson's plan of detaching the placenta, it will be remembered that, notwithstanding the absence of clot in the vessels of the uterus examined by Dr. Mackenzie, in one examined by Profs. Simpson and Reid, some of the mouths of the uterine vessels were blocked by coagula, while others were empty.

When reaction has been produced in a case of hæmorrhage or nervous exhaustion, by the administration of stimuli, and firm pressure over the uterine tumor, the tonicity of the arteries is restored, and contraction will take place; while the same pressure will also so compress the bleeding vessels, that hæmorrhage will be prevented, and coagula then be formed. The large clots which frequently are expelled after delivery has been completed, in ordinary cases, are the result of hæmorrhage, no doubt from a want of tonicity of the vessels, which might have been secured by well regulated pressure; for in no instance have I seen post-partum hæmorrhage occur, where systematic and uniform pressure was maintained over the uterine region as the contents of the uterus were expelled, and until the bandage had been well applied, except in one case, which took place some time after the placenta had come away, in an exceedingly anæmic and feeble woman, whose nervous system suddenly received a severe shock from some family occurrence. Fearful hæmorrhage was the result, but this was controlled by the free use of stimuli, with pressure and friction. And in all cases of *post-partum* hæmorrhage, I have little doubt, it is superinduced by a condition of the patient similar to that mentioned by Dr. Mackenzie, in which the nervous or vascular system has been previously involved, atony being the result, or else by the non-observance of pressure on the sudden expulsion of the contents of the uterus.

The mode in which the hæmorrhage, in cases of entire separation of the placenta, is controlled, seems to be the same as in some of partial placental presentation. In these cases, as the head descends, it acts as a tampon on the detached uterine vessels of the placenta, and controls the hæmorrhage, as has been observed by all who have written on the subject, and will be illustrated also by two of the cases appended to this paper. In the cases of entire implantation over the cervix, when the placenta is detached, it acts with the clots formed about it, as a plug also, and controls the hæmorrhage until the bleeding vessels are filled with coagula; and this explanation does not conflict with the results of the experiments above alluded to.

Dr. Mackenzie thinks from his experiments, that no necessary relation exists between the degree of hæmorrhage, and that of placental separation; but Dr. Simpson states that he has uniformly observed, that the greater the separation the smaller the amount of the hæmorrhage; and no case has been reported in which the placenta had been detached and left in sitû, that hæmorrhage has continued.

The chief argument which should have the greatest weight in favor of Dr. Simpson's plan of treatment, as cases reported have thus far shown, and which has not been satisfactorily opposed, is the lessened ratio of mortality among the mothers. On the old mode of procedure, 134 out of 399 died; of Prof. Simpson's collected cases, from both expulsion and artificial separation, 10 out of 141 cases died, or one in fourteen.

Notwithstanding all that has been said on the subject, the practice has been so recently introduced to the notice of the profession, the discussion has been so warmly conducted in many quarters, and the opposition has emanated from such high authority, that a sufficient number of cases has hardly yet been presented to enable us to indicate any more definite rules than those which follow, and are similar to those inculcated by Dr. Edwards in his paper; viz. that it would be proper to detach the placenta, leaving it in position, in all cases of placenta prævia in which the patient is exhausted from the loss of blood, and further hæmorrhage would endanger her life, if the child is ascertained to be dead,—if malformation of the pelvis should require instrumental aid to accomplish delivery,—in which hæmorrhage is not arrested by the rupture of the membranes, and version is inapplicable on account of the condition of the uterus and vagina.

The following cases, which have come under my own notice, were treated on the old method, with the exception of No. 3; as there were no reasons for resorting to any other:

Case 1. In October, 1849, I was sent for to see Mrs. M——, who, I was informed, had been in labor for some hours, and was flooding profusely. She had had occasional hæmorrhage for a week previously. I learned that her physician had left the city, and a stranger been called in, who was anxious to be relieved of the case. I found a young woman about 25 years of age in labor with her second child, and with pulse scarcely perceptible at the wrist, and lying with her clothes and bed saturated with blood. I at once ordered some brandy to be given her, and made an examination; the os uteri was dilated to the extent of two inches, and on one side the placenta was presenting, and a portion protruding through the os; the head of the child was descending beside the placenta: after the exhibition of the brandy a pain occurred, followed by hæmorrhage, and the head advanced. I compressed the placenta with my fingers, and sent for some ergot of rye; the pains increased, the pulse became fuller, and the head descended so as to compress the placenta fully, and the hæmorrhage ceased. After a few more pains the child was expelled with the placenta. The uterus was compressed by the nurse and there was no further hæmorrhage. The child being anæmic and asphyxiated, artificial respiration was resorted to, and in twenty minutes it cried and respired regularly. No ergot was administered: a supporting treatment was pursued, and in fourteen days the patient had recovered. The child also did well.

Case 2. In July, 1851, I was requested by Dr. James Hyslop, of this city, to see Mrs. H. with him, who was in labor at term with her fourth child: soon after the first symptoms of labor occurred she had a large gush of blood. This continued with every pain. The Dr. found the os was dilating so that he could introduce a finger, and the placenta presenting. The hæmorrhage continuing, I was sent for; by this time (about three hours after labor had begun) the head could be felt beside the placenta, and about one-third of the latter covered the os, with a small portion protruding. As the head advanced it compressed the placenta; the patient's strength having remained good, the pains becoming sharper, and the hæmorrhage less as the compression increased; ice, only, was resorted to. Dr. Hyslop afterwards informed me that the labor was completed without any other untoward occurrence, and both mother and child did well.

Case 3. In February, 1853, I was called to see, for Dr. Chalmers of this city, a lady in the ninth month of pregnancy, who had suffered during the previous two months from repeated attacks of uterine hæmorrhage, continuing at intervals until labor commenced, which had produced considerable depression of strength: the treatment had been, rest in the horizontal posture with the use of ice, which controlled it. Dr. F. U. Johnston also saw this case in consultation.

Two days after my first visit, labor commenced, and the placenta was found entirely implanted over the os uteri, which was too rigid to permit the attempt to introduce the hand for the purpose of version, and plugging was resorted to, the ice also continued. In the afternoon, as the patient was becoming feeble from the loss of blood, and the os having become dilatable, it was decided to turn and deliver. Dr. Chalmers first separated the placenta, but the patient not rallying, and fearing internal hæmorrhage, he afterwards proceeded to deliver the child, which was perfectly exsanguined and dead. There was no more hæmorrhage after the delivery was completed. Brandy was administered freely, as the patient was much exhausted.

She was put upon a stimulating and supporting plan of treatment, but sank on the ninth day after the delivery, from irritative fever.

Dr. Chalmers has informed me that he has recently had another case of perfect placenta prævia, in which version was performed, and the patient delivered of a living child.

Case 4. M. G., aged twenty-four, was admitted into the lying-in department of the State Emigrant Hospital, July 10, 1853, at term, with uterine hæmorrhage. The patient has one child and always had good health. A month ago she had slight hæmorrhage, with no recurrence of it until the ninth instant, when she was awakened at night by a free discharge, and blood amounting as she supposed to three pints; this morning it again occurred, and continued at intervals until four p. m., when she was received into hospital. She was immediately put to bed and the hæmorrhage ceased.

An examination was made by the house physician, Dr. Clements. There were some coagula in the vagina, and the os uteri was high up and dilated only sufficiently to admit of the introduction of one finger. The usual directions were given.

There was no hæmorrhage for an hour, when, in an attempt to pass water, several clots were expelled, followed by profuse bleeding; dilatation as before. At nine o'clock regular labor pains commenced—pulse 100.

There was no further hæmorrhage until one a. m. of the eleventh, and consequently no vaginal examination was made, as the pulse gave no indication of failing, but she was carefully watched. At this time the bleeding recurred, and the os uteri was found to be dilated to the extent of one and a half inches, the woman's strength being somewhat diminished and pulse increasing in frequency and feebleness. I decided to introduce my hand in and deliver the child. I found the os uteri completely covered by the placenta, which was firmly attached. I separated it carefully on one side, when the hæmorrhage becoming profuse, I passed my hand through the opening by the free edge of the placenta, ruptured the membranes, the arm acting as a plug, and ascertained that the face was presenting. I soon secured the feet of the child, brought them down, and delivered both child and placenta. The uterus was firmly compressed by my assistant as its contents were extracted, and friction employed. Brandy was administered freely, as the patient had become feeble. The child was exsanguined and dead. No hæmorrhage took place after the delivery. She soon rallied, the uterus contracted, and she slept for half an hour—pulse improving. An hour after, she became excited and very nervous, complained of pains, and talked incoherently. An anodyne was given. At four and a half a. m., patient fell asleep.

During the 11th and 12th, she complained of pain in the right hypogastrium, the pulse ranging at 120. Dover's powder and camphor were administered according to the indications.

On the 13th and 14th, the lochia was diminished in quantity; the pain in abdomen continued; a hop poultice was applied, and Dover's powder given. There having been no motion from the bowels, some castor oil was administered, which was followed by a free dejection. Pulse 120, and feeble; secretion of urine scanty. Opium was exhibited in grain doses every hour, and, after the sixth grain, patient slept.

On the 16th and 17th, the abdomen became tympanitic, with much tenderness; pulse 130, and she had several thin, dark yellow evacuations. The opium was continued, with poultices to the abdomen. She slept somewhat, but uneasily. Beef tea and milk punch were given as her condition demanded them.

From the 18th to the 20th she improved, and lochia returned; there was no secretion of milk.

After the 21st, pulse diminished in frequency, and the sulphate of quinine with the sesqui-chloride of iron were administered, with a well-selected diet.

On the 2d of August the patient was discharged well, being the 22d day after her delivery.

My assistants, Dr. J. Vedder and B. A. Clements, watched the case throughout with much care, and recorded with fidelity any changes that took place.

Remarks. I may observe in this case, that I avoided the danger likely to ensue from delay. I felt the importance of delivery at the earliest possible moment for the safety of both mother and child; for Dr. Lee has justly observed, "the fatal termination to the mother in placenta prævia is often owing to the time lost before delivery is attempted," and I am persuaded the maxim is correct "to determine to deliver early is to determine that the patient shall not die."

It will be noticed no hæmorrhage took place after the placenta had been removed.

This is the only case of complete placenta prævia which has occurred in 1,131 deliveries which have taken place in this hospital under my supervision since March, 1853.

Case 5. In November, 1853, I was requested by Dr. James Hyslop to see, with his brother, a case of partial placenta prævia, in a woman in labor at the seventh month with her second child. The head presented, but was still in the superior strait; the membranes were ruptured, and about one-third of the placenta was over the os uteri at the left side, and nearly detached. The flooding had previously been very alarming, but was now inconsiderable; the pains were subsiding, and the patient feeble. Some brandy was given her, and after she had somewhat rallied, it was decided that the delivery should be completed. Dr. Hyslop performed version; the child was dead. The woman recovered.

Case 6. Caroline S., aged 26, a native of Germany, was admitted into the Emigrants' Hospital, Nov. 30, 1853, in labor with her first child in the seventh month, suffering from hæmorrhage; the head presented in the first position, with a small portion of the placenta.

This patient had hæmorrhage twelve days, and again seven days before admission, which recurred 36 hours before she fell in labor. The placenta was found partially attached over the os uteri; ice only was applied, and the labor terminated successfully without interference.

Case 7. On the 20th July last, I was consulted by Mr. N. in reference to the condition of his wife, who, he informed me, was pregnant with her eleventh child in the eighth month, and had had uterine hæmorrhage several times.

I found her an active woman about 40. Her health had been generally good; her bowels at present constipated. On examination, the os uteri was undilated. I directed rest, and cold water enemata. A week afterwards I again saw her. She had had one or two gushes of blood, but not to an alarming extent, since my last visit, and her general condition was comfortable. My former directions were repeated, with the injunction that I should be sent for whenever the hæmorrhage recurred.

On the 14th August I was summoned to see the patient; but being at the time in attendance on an obstetric case, I did not reach her for three hours afterwards, when I found her in a sitting position in a pool of blood, and a chamber half-filled with blood beside her. Her pulse could scarcely be counted; she was pale, her lips were livid. I at once placed her in a horizontal position, and gave her brandy. The os uteri was dilated to the extent of two inches, one-third of the placenta attached to the os uteri, the membranes were ruptured, and the breech presented beside the placenta. As she was rallying, I immediately brought down the feet; the hæmorrhage continuing, the child and placenta were removed together, when the hæmorrhage ceased. The child was anæmic; it gasped once, but could not be resuscitated. My former assistant, Dr. Vedder (who happened to be with me), compressed the uterus while I effected the delivery. The mother immediately rallied, and on the tenth day was out of bed, and has continued to do well.

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PART II.—REVIEWS AND BIBLIOGRAPHY.

(*Crowded out by press of matter.*)

PART III.—CHRONICLE OF MEDICAL PROGRESS.

[The abstracts and translations found under this title are made expressly for the AMERICAN MEDICAL MONTHLY.]

On the spontaneous development of typhus contagion. By G. ZIMMERMANN, of Hamm.

THE question whether the development of a contagion is necessarily connected with the origin of genuine typhus, or is only the result of certain influences in its course, has by no means a merely theoretical interest; for if there are cases of typhus which develop contagion by all momenta changing the process, it is a practical desideratum to know how these are imparted, and what course they take. For then we can, at times, take measures, if not to hinder the formation of contagion yet to paralyze the activity of the infectious principle. For the present, it will suffice to consider all the cases treated expectantly which had in consequence a greater expansion of the process; their probable conformity, in course and phenomena will, perhaps, permit us to recognize what product of the disease we have to consider as the carrier of the contagion. This knowledge, however, finds a great obstacle in the circumstance that the persons who are generally the first to become infected, dwell a considerable time with the sick, and are frequently exposed to those deleterious influences which, of themselves, may produce typhus. This difficulty becomes removed, if first we have a large number of cases which point to the formation of contagion, but in which other modes of infection are evident.

It has always been supposed in typhus epidemics, that a concurrence of deleterious forces during the disease, effected the development of contagion; to the author it is far more probable that it is either personalities which, in consequence of their peculiar physiological constitution, are, in themselves, already predisposed to it, or that the causes of typhus, in particular cases, are of such a character that they conduct the whole process to the development of contagion. At times, both may operate simultaneously, and sometimes may be added thereto faulty management and bad treatment *during* the disease. The author now connects some farther observations with the following case:

A very strong recruit, M., was seized upon the 19th of December, 1852, with chills, headache, pains in the abdomen, diarrhœa, etc., and upon the 25th was taken to the lazaret. The author first examined him on the 27th, being the 9th day of the disease, at which time, with a lively fever (pulse 96, and 40°, 15 C. in the rectum), he exhibited the perfect form of an ileo-typhus. Besides the usual nervous symptoms, emaciation and loss of strength, the affection was developed in a high degree: pain; twelve stools in 24 hours, containing albumen and of the peculiar quality; the spleen enlarged; the kidneys affected, the urine being albuminous and loaded with fibrinous cylinders; the heart paralyzed, the right half distended; weak, diffuse impulse between the 5th and 6th ribs, 1½″ to the right of the mamillary line; the sound dull and long. Feline purr in the jugular vein; the pneumono-bronchitic affection already in great extent, with 24 respirations. Internally only gum water, but at the same time, in order to cut short the affection of the lungs [? !], a venesection and three affusions with some buckets of cold water. The increase of the disease continued some 14 days, then the process was maintained as long at about the same height, although the "fever" had lost somewhat in intensity; the 28th day was "*critical*," that is, the change for the better was decided; and now began the stage of decline, ending with the 56th day. The *critical* turn in the process on the 28th day was ushered in by a *sweat*, which was afterwards repeated several days in succession, the change being also accompanied by spontaneous urinary sediments, cleaning of the tongue, cessation of the diarrhœa, and abatement of all the other phenomena. The spleen already swollen upon the 9th day, continued so to the end of the fourth week, but was of normal volume on the 32d day. The tongue became dry upon the 10th day, soon exhibited deep transverse clefts, with a lardaceous base, and first became moist and clean upon the 28th day. The lungs were already affected upon the 8th day; the venesection made on the 9th was not sufficient to arrest the affection. It was extensively diffused, and became first extinguished with the 38th day, but so perfectly that the lungs issued from the process unhurt. Sweating occurred once upon the 12th day; in the course of the 23d day a profuse perspiration came on again, which had, for its result, an eruption of *miliaria alba* and a moderation of the temperature The miliary vesicles continued till the 26th day, when, for the first time, some spots of roseola were to be observed upon the breast. The sweat on the 27th day was accompanied by no new miliary eruption, but a diminution of the temperature two degrees, and a remarkable moderation of the respiration. From the 27th day began a *furfuraceous desquamation* of the cuticle over the whole body. Already, upon the 18th day, the decubitus was perfect; on the 45th and 46th days two abscesses at the anus were opened. The cold affusions employed on account of the delirium, unconsciousness, and apathy, had only a transient effect.

The attendant of this patient, not a very strong man, sickened between the seventh and eighth week, and according to the assurance of the attending physician, passed through a similar typhus. He had very copious diarrhœa, also roseola and desquamation of the skin; the course was likewise a protracted one, so that the man was incapable of labor until after 13 weeks. He could have become infected only from his ward, because no typhus prevailed in the city, and the case described may well have generated contagion.

It is peculiar in this case, that this man coming from a locality where there was no typhus, and already three months invested, was the only one of the whole garrison who was attacked in the winter of 1852–3 by abdominal typhus, whilst formerly seven or eight were accustomed to sicken; and perhaps it was owing to the circumstance that this man was uncommonly disposed to the typhus process, so that even very slight causes sufficed to call it into action. That the deleterious influences to which newly arriving soldiers have to expose themselves, were weaker than usual this year, the author concludes from the fact that none of the rest sickened; and we cannot well suppose that out of fifty recruits only one brought with him a disposition to typhus. When strong causes determine the typhus process in an organism capable of resistance, so its products will be other than when the individual disposition thereto is very great, but the causes very weak. If this depends, in the latter instance, upon peculiar chemical and physical relations, in a word, upon the composition (humorism), upon the manner in which the chemical processes take place in all or some of the tissues, for example, the blood and the nerves, so it is clear that products may arise in the event of the process kindled by the typhus cause, which are capable of transferring to other organisms the chemical quality residing in them, their peculiar excitation and motion of atoms (ferment). It may be that every typhus patient generates more or less contagion; but it does not acquire efficiency, because it is destroyed by constituents of the air, e. g. the ozone, or there is frequently an absence of properly disposed individuals, or a longer influence is required in order to germinate. Its strength is directed, perhaps, wholly according to the peculiarity of the case.

Perhaps those cases of abdominal typhus, which require eight weeks to run their course, always develop a contagion, which calls forth the same process when its influence is directed upon predisposed persons for a certain time and in mass.

For four weeks the patient was in a violent, continued fever; his corporeal heat continued on the average 3° R. above normal; in the fifth week it was 1°.5 higher, and then gradually approached again the preceding standard. The author thinks that a process which goes on five weeks with an exchange of substance so great as is necessary to the production of so high a corporeal heat, may at last form products so qualitatively abnormal that they may attain infecting power. Small-pox, scarlatina, and the measles, also develop their contagion in the state of "fever," that is, very exalted temperature and lively circulation, and a corresponding hyperæmia of the skin. We see that which is similar in abdominal typhus; if blood of three or four degrees higher temperature, qualitatively and quantitatively abnormal, circulates for 4 or 5 weeks in the capillaries of the skin, the formation of abnormal products in time occurs; this is evidenced by the sweats, the miliaria, roseola, desquamation of the whole cuticle, falling out of the hair, formation of abscesses about the anus, and the early appearing decubitus. If an infectious principle is formed, we have then the choice of considering the stools, the pulmonary exhalations, or the products of the skin as its carriers.

The author is not inclined to consider the stools as the carriers, notwithstanding their great number and quantity up to the fourteenth day, and notwithstanding the length of time the exudation from the intestine lasted, since they were carefully removed from the sick chamber; and as the patient never passed his urine with the stools, but in a separate vessel, they were not subject to so rapid a decomposition. Were the stools the carriers or producers of the contagion, according to the author's opinion the attendant of the patient must have felt unwell sooner than in the seventh or eighth week; for we could only consider those stools as contagion-carriers which contained exudation, and this disappeared toward the end of the fourth week. Had the attendant been infected in the second or third week, this would give, as the period of incubation, from three to five weeks, a space of time which is never observed in well-determined typhus contagion.

As to the idea that the pulmonary exhalations convey the infectious principle, there are no facts in support of it; therefore we can only consider the skin as the producer, which also evidently is so in the other contagious exanthematic processes.

What the contagion is, and to what part it clings, is a question which remains in the domain of hypothesis. If it is volatile, miasmatic, it is, perhaps, excreted with the sweat, and found, in part, in the miliary vesicles. If, on the other hand, the contagion is of a fixed nature, it may cling to the epithelia of the epidemics, which desquamate furfuraceously, and are scattered by millions in the air. The cause of the desquamation of the cuticle in the later weeks of typhus is, perhaps, as in the other exanthematic processes, an exudation; and either this furnishes the contagion which clings to the epithelia or penetrates them, or these latter have attained, through an alteration of the blood, so peculiar a property, that they can transfer their inner chemical movement to other organisms, and call forth the same process through which they received their contagious power. The young epithelial cells found in the deepest layers of the skin, probably originate from the blood, and they receive from it their nutritive material; perhaps radically altered in their chemical constitution they so develop this that they become the contagion, in the same manner as it is formed in small-pox, vaccinia, syphilis, etc., when the blood itself is then free. By means of the air the epithelia desquamating in so large quantity must come in contact with the respiratory mucous membrane, and from hence may readily act upon the blood as a zymotic body.

If it is determined that those cases of abdominal typhus which, without the accession of accidental disturbances take a protracted course and exhibit the above-mentioned phenomena upon the skin, always form contagion, it follows therefrom that we should consider how to neutralize its effect. With the beginning of the fifth week, when we perceive that we have to do with a contagion-forming process, we must, if the infectious principle is miasmatic, destroy the same by chlorine fumigations; if the epithelia of the skin contain it, by chlorine lavements and baths. If an infection is only possible from a more protracted action of the contagion, a frequent change of the attendants, etc., should be recommended. [Oppalzer warns especially those suffering from urethral blenorrhœa from remaining by the bedside of typhus patients; and the reporter has had an opportunity of observing several cases in which young persons, suffering from fluxes of this character, especially students of medicine, have sickened with typhus, when they had remained but a short time by the bed of those affected by typhus.] *Deutsche Klinik.*

On the present state of Nerve-physiology and Pathology. By Prof. C. Eckard.

The author dates correctly the new epoch of nerve-physiology from the well-known article of Volkmann, which combined with a spirited critique in one scientific whole all that was hitherto known previous to the discovery of nervous electricity. As the characteristic of the present efforts, the author designates, 1. The prevailing inclination to comprehend the *essence* and the *laws* of nervous activity; 2. To do this in a genuine *physical* sense, to found a general nerve-physique, whilst simultaneously also much important aid has been furnished to special nerve-physiology. First of all, the advances of nerve physiology will be considered.

In this department, before all others, the classic researches of Bois-Reymond concerning the *electric action* of the nerves, the discovery of a constant electric current existing in living nerves, and, indeed, *only* in living ones, the knowledge of the laws of the same, the indication of definite alterations of this current in active nerves take the precedence. With the latter indication we have first learned to recognize a characteristic property of the active nerve, which was formerly only recognizable externally by its effects. The most important facts determined by Bois-Reymond are the following:

1. *In every living nerve we find electric currents*, as well in a motor as in a sensitive nerve. Each nerve consists of a multitude of electric molecules, which are charged with electric opposites, *i. e.* have a positive and a negative pole, and are connected by a moist conductor. The numberless individual currents arising from the combination of these molecules, combine to a common current, which we recognize by the insertion of a nerve in the multiplicator circle into a conducted branch of a current operating upon the magnetic needle. We add, that in every portion of nerve, however thick, are to be recognized the very same currents of the same direction. 2. At each irritation which affects a nerve at any period whatever, let this irritation be of what kind it may, so soon as it only becomes the cause of a manifestation of the action of the nerve (motion, sensation, secretion), the nervous current exhibits an alteration, which depends upon alterations in the arrangement of the electric molecules. We recognize these alterations again in the conducted branch of a current in the multiplicator circle. 3. If we conduct an electric current through a muscular nerve, the muscle contracts only from fluctuations of this current, but remains quiet when a constant current is conducted through the nerve. But, also, this constant current not merely changes the electric action in the portion of the nerve through which it runs, but in the whole remaining current the electro-tonic condition occurs.

A second important aid to the knowledge of the process of innervation has been furnished by Helmholtz through the measurement, accomplished with the greatest ingenuity, of the *rapidity of the propagation of nervous action.* This, in the nerves of frogs, amounts to 26 or 27 metres per second, in man to 61.5 metres; it increases with exalted temperature, and is probably for this reason greater in man.

From these facts we derive the following conclusions in regard to the essence of the condition of nervous excitation (nervous fluid, nervous agent).

Nervous excitation is propagated with much less rapidity than electricity; the "nervous principle" also can not be an analogue of electric motion. It is presumed that nervous excitation and its propagation consist in exciting and communicating *motions* of individual *material* parts of nerves to their neighbors, like as is the case in the propagation of undulations of air and water. From the evidence of electric molecules in the nerves, we are warranted in supposing that the incitement to motion is not the result of a material principle, but the consequence of opposite electric influence. Bois-Reymond compares the nerve molecules in this respect with a number of magnetic needles, which are so arranged, one after another, that opposite poles everywhere touch. If we turn the first of these needles, this turns the second through the electric influence, the second turns the third, and so on. The propagation of nervous action is therefore of an electric nature, but not in the form of a galvanic current.

The further considerations the author unites with the two important physiological combinations, nerve and muscle, sensitive nerve and central organ. Formerly the motor and sensitive nerve were considered as essentially different, in consequence of the direction of their conducting power. The former could conduct only centrifugally, the latter centripetally. Now, we must suppose in every nerve the same twofold conducting power, since we know, that in the excited nerve a characteristic different electric action exists and is manifested, that this action in every excited nerve, whether it be motor or sensitive, is peripherically propagated on either side of the excited point. A muscular nerve conducts also centrally; but only the peripherically conducted excitation takes effect, since it is connected only at the periphery with an organ responding to the excitation, *i. e.* with a muscle.

Muscle and *Nerve.* The author here mentions first the investigations of later time, which concern the so-called experiments by irritation. Of the *electric* irritation we know, now, that the contractions are not dependent upon the absolute strength of the exciting electric current, but that a contraction arises only from fluctuations of the strength of the current succeeding each other at infinitely small spaces of time. A contraction, therefore, only arises upon opening and closing the circle, whilst during a constant current the muscle remains quiet. The strength of the contraction depends upon many concomitant circumstances,—upon the size of the portion of nerve inserted in the current, upon the direction of the current along the axis of the nerve, and whether it is directed in a parallel course with the same, ascending or descending. Here, furthermore, belongs the "*paradoxical contraction.*" If we place upon a nerve A, standing in connection with a muscle, a second portion of nerve B, and irritate B electrically, the muscle supplied by A contracts. The so-called electro-tonic condition of the nerve, which we mentioned above, furnishes the explanation. If we conduct an electric current through a tract of a nerve, the electric molecules in all the remaining nerve so dispose themselves, that whenever any two points of its length become connected by a conductor, between these two points and through the conductor an electric current flows. If we place upon an electro-tonic nerve the nerve A, this forms the conductor between two points of the former, consequently becomes traversed by an electric current, which excites it, and thus induces the contraction. This paradoxical contraction shows that the law of isolated conduction does not hold for electric irritation, but an electrically excited (electro-tonized) nerve can impart its excitation to one lying upon it.

Here, also, belongs the so-called *unipolar contraction*, the explanation of which, however, requires a too completely physical introduction to be given here.

Again, to this category belongs the fact, that a *tetanus* produced in a muscle by whatever irritation of its nerves, disappears when a *constant strong current* is passed through a tract of the excited nerve (because this probably displaces the electric molecules in electro-tone, and thus prevents them from following the incitement, called forth by the irritation, to complete excitation). The author refers to the idea of curing tetanus in this manner, but shows also the great improbability of such a result. With the *thermic irritation* of nerves the author has especially occupied himself, and shown that only those temperatures which *momentaneously* disturb the structure of the nerve, induce contraction. So, also, the author has accurately investigated the mode of operation of chemical irritants. All these operate through chemical, or else mechanical relation to one of the chemical constituents of the nerve; they excite the nerve so soon as they chemically, and in an active way, lay hold of the nervous substance, and thereby quickly kill the nerve. Some operate by coagulating the albumen; others by the abstraction of water, &c.

Sensitive nerve and central organ. The author first considers the important doctrine concerning the sense of touch, well settled, especially by the classic investigations of E. H. Weber, that the result of the irritation of sensitive nerves is essentially determined by the point at which the nerve is irritated. If the irritation affects the nervous extremities, different irritations produce qualitatively different sensations (temperature, pressure, local sensation), provided the irritation does not exceed certain degrees of intensity. Irritation of the trunk constantly determines a sensation of pain, independent of the quality of the irritation. From these facts it was concluded, that at the ends of the sensitive nerves must exist organs, organs of sense, which mediate the different qualities of sensation. Whether, and how far, the tactual corpuscles of Wagner are to be regarded as such, the author leaves undecided. Since, however, according to Dieffenbach, the brain, in the ether-narcosis, may be at times insensible to pain but sensitive to impressions of touch, the disposition of the ends of the nerves does not suffice for the explanation of the various results of irritation. According to the author, the process in the nerves must be, one upon excitation of the ends, another upon excitation of the trunk, since a qualitative and quantitative *like* irritation produces different effects. If we dip the elbow into a cold fluid, we perceive first cold through the ends of the nerves in the skin, then pain through the trunk.

Spinal Marrow. The following principal points have been recently discussed: 1. *Do the nerves of the spinal marrow originate from the brain?* Kölliker has sought to prove this, especially by mensurations of the section of the cervical marrow, and comparing the amount with that of the sections of all the issuing nerves. But this calculation is extremely uncertain and deceptive, and, especially in opposition to physiological facts, more particularly the so-called reflex phenomena, proves nothing at all. [Besides Wagner has also refuted this assertion by an anatomical method.] 2. *On the crossing of the nerve fibre in the anterior white commissure.* A partial crossing of the anterior fibres in the white anterior commissure has been generally conceded as proven anatomically and physiologically. [Wagner denies this also. According to him the anterior commissure consists only of fibres which connect ganglionic cells of both halves of the spinal marrow.] 3. *The law of Bell has exceptions* (not naturally in the living body). By irritation of the *peripheric* ends of several sensitive roots, and by irritation of the *central* ends of the motor roots, we can produce contraction; nevertheless, only by electric irritation, in which case the contraction may be explained as a paradoxical contraction. Whether the author was not yet acquainted with the new doctrines of Pflüger concerning the sensory functions of the spinal marrow, or intentionally omitted to mention them, we know not. We shall only say here, that Pflüger ascribes to the spinal marrow as well as to the brain the capacity of conscious sensation and of voluntary incitation of motion, and endeavors to show that many of the so-called reflex movements of decapitated animals are voluntary motions. [The author makes no reference to the views and experiments of our countryman, Dr. Dowler, upon this point, which, if I mistake not, were anterior to those of Pflüger. H. N. B.]

Brain and cerebral nerves. Concerning the brain and its functions, recent time has added nothing further to our knowledge. The author mentions as the only new discovery of importance, the observation of Bernard, that after irritation of the floor of the fourth ventricle, sugar appears in the urine,—that is, sugar superabundantly formed in the blood, or undergoing no further metamorphosis, is excreted by the kidneys. But this novelty is yet a completely unsolved riddle. As concerns the cerebral nerves, the author observes, that most of the latest notions concerning their action are doubtful, because no experiment offers a guarantee that a unipolar or paradoxical contraction does not give a false signification. He, however, gives the following facts: 1. *Oculo-motorius.* This nerve, according to recent observations, has an influence upon the contraction of the pupil. 2. *Trigeminus.* The contraction of the pupil, which follows upon division of this nerve, appears not to depend upon a reflection upon the oculo-motorius, since it occurs also when the latter is divided. Manifold pathological results appear to furnish the proof that the ramus lingualis mediates sensations of taste. Ludwig's experiments concerning the influence of this nerve on the salivary secretion are very interesting. Artificial irritation of the branch going to the sub-maxillary gland excites and increases the secretion, and indeed not by an effect upon the muscular fibres of the vessels or of the gland, not by increasing the blood-pressure, but, according to Ludwig's hypothesis, by an alteration of the physical properties of the secreting membranes.

3. *Facialis.* Nuhn has determined the motion of the velum upon irritation of this nerve in the decapitated. It is farther shown that it presides over the secretion of the parotid (through the track of the chorda tympani). 4. *Glosso-pharyngeus.* Ludwig and Rahn have shown, that the salivary secretion becomes excited by this nerve in a reflex manner. 5. *Vagus.* a. *Its influence on the motion of the heart.* The proposition of Ed. Weber, that after division of the vagus the heart beats quicker, and remains quiet after irritation with the rotatory apparatus, has become extended; irritation of a vagus is sufficient for this effect; besides the electric irritation a chemical one is also efficient. A paralyzing influence upon the ganglia of the heart presiding over motion is therefore ascribed to the vagus. b. *Effect of the vagus upon the respiratory functions.* Division of the vagi protracts the respiratory movements. It is thought, therefore, that the vagi impel the centres of respiratory motion, through a rhythmic impulse, to excitation of the respiratory nerves. Irritation of the central stumps of the divided vagi also really accelerates respiratory motion, so long as the intensity of the irritation is not too great. How the œdematous infiltration of the pulmonary vesicles, occurring after section of the vagi, is to be explained, is not yet ascertained. c. *Influence of the vagus upon the stomach and digestion.* It is

determined that the vagus has an influence upon the motion of the stomach, but not alone, since movements of the stomach still occur after its division. Bidder and Schmidt have more accurately determined the influence of division of the vagus upon the chemismus of digestion. The diminished secretion, which is not at all constant, depends upon the detention of the saliva by the paralyzed œsophagus; the same circumstance produces also diminution of the free acids. Were this want of saliva compensated by injection of water into the stomach through fistulæ, these indirect results of section of the vagus were removed.

Ganglia and sympathetic nerve. In relation to this part of the nervous system the author sets forth chiefly, that recent times have furnished little that is decisive; the confused obscurity which rests upon the anatomical and physiological disposition of these nervous structures and complexities has not yet disappeared. The extraordinary difficulty of the investigation explains the hitherto fruitlessness of the numerous diligent labors in this department. The author considers the following general propositions as proven:—

1. The organs supplied by the sympathetic are not subject to the will; but in certain conditions of the cerebro-spinal organ the latter attains an influence upon the former, as in emotion, diseases of the brain and spinal marrow, &c.

2. The department of the sympathetic contains *self-exciting* points, since we find movements in the organs belonging to it which neither depend upon the brain, spinal marrow, or exterior irritation.

3. In the system of the sympathetic, sensitive fibres occur, but which do not mediate definite sensations of place, pressure, temperature, and increase their action under certain circumstances.

4. All hitherto known facts show, not incontestably, the occurrence of *reflex movements* between parts of the sympathetic without the mediation of the cerebro-spinal organ.—*Schmidt's Jahrbücher, May*, 1854.

Practical Observations on Cauliflower Excrescence, &c. &c. By ROBERT JONES, A. M., M. D.

In the Dublin Quarterly Journal of Med. Science, Dr. Jones reports a case in which he excised the cervix uteri. The following condensed report will give our readers the prominent points of the case.

Mrs. M——, aged twenty-nine years, a scrofulous, delicate-looking woman, married eight years, and mother of four living children, was admitted into the Meath Hospital on the 10th of November, 1852. She stated that she had been in bad health for a year or so previously. Her labors were quick, natural, and followed by good recoveries. The catamenia, which were painless,* first appeared at sixteen years of age, had regularly returned monthly, except during pregnancy and lactation, up to the seven months immediately preceding her admission; during the whole of which period there had been a continued and excessive hæmorrhage per vaginum, confining her for the most part to the bed. The face was of a dirty yellow, anæmic, and malignant aspect; the eyes sunken and surrounded by a dark circle; the digestion much impaired, with loss of appetite, flesh, and strength; the bowels regular, but much distended from flatus. She suffered very much from constant giddiness, accompanied by fear, but without cephalalgia, from anhelation on the slightest motion, much pain over the hepatic region, in the breast under the nipples, across the loins, accompanied by weakness, and over the sacrum, and down the legs; there was also a constant burning sensation over the uterus, a darting, †lancinating pain up the vagina, with uterine inertia, and great enlargement of the inguinal glands. For a short while antecedent to the hæmorrhage, a vaginal discharge, of a purulent and sometimes of a watery nature, was present, which latter was not at any time copious, nor preceded by moisture of the parts. The hæmorrhage was excessive from its invasion, and not gradual, as in most cases. On examining digitally, about half way up the vagina, which was far from being relaxed, there was found a large, firm, lobulated, insensible tumor, growing from and embracing the entire of the os uteri, lying obliquely against the sacrum, and, in consequence of the brittleness, breaking down with loss of blood on the least degree of pressure. The speculum being used, was immediately filled with blood, which, being removed by a piece of sponge, revealed the rough tumor already described, of a bright flesh color. The os was patulous, but the cervix appeared healthy above the growth.

On the 12th of Nov. Dr. Jones threw a ligature of twisted dentist's silk, by means of Gooch's double canula, around the cervix uteri, as high up as he could possibly reach, being convinced that the more of the sound tissue he removed, the better would be the chance of success. The patient complained very much of pain in the uterus, immediately after the application of the ligature. Fearing subsequent inflammation, he prescribed a pill containing four grains each of hydrarg. cum cretâ and Dover's powder, to be taken every third hour. In the evening it is reported that the pain in the uterus had not all abated, but there was no abdominal tenderness. It not being considered advisable to loosen the ligature, if possible, she was ordered a draught of ipecacuanha wine, two drachms of water of acetate of ammonia, and half a drachm of tincture of opium, in an ounce of water, and a cathartic draught of rhubarb and sulphate of potash in the morning.

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* Some authors have stated that the great majority of females suffering from cancerous affections of the womb have had dysmenorrhœa in early life. In very few of those whom I have seen for some years, had there ever been any derangement of menstruation during that period.

† Sir C. M. Clarke states that the pain in this disease is never of this character.

13th. She did not sleep during the night; pain much abated, but a great amount of tenderness over the uterus, with quick pulse; the ligature was tightened, and the vagina was syringed with warm water. The abdomen was ordered to be frequently fomented, and a pill containing half a grain of calomel, a grain of blue pill, and a fourth of a grain of opium, to be taken every second hour, with, if requisite, a draught containing forty drops of laudanum at bed time.

14th. She slept well during the night; pain and all tenderness completely removed; she complained much of her mouth being sore: all medicines to be omitted. The ligature on being tightened gave way. The case, not being urgent, all further interference, with the exception of syringing out the vagina, was deferred until next visit.

15th. She passed a very restless and sleepless night; tongue foul, pulse quick, and in fact a high state of irritative fever present. On making a vaginal examination, he discovered that the cervix uteri had been partly cut into by the ligature, and that the tumor was in a state approaching to gangrene; with a dirty, fœtid discharge issuing from the vagina, to which state of matters he attributed the fever. Under these circumstances, fearing that phlebitis might ensue, he introduced Weiss's trivalve speculum, drew down the os uteri by means of a double vulsellum, and excised the cervix with a blunt-pointed scissors, curved on the flat, Messrs. Smyly and G. H. Porter kindly assisting. No hæmorrhage, ever so trifling, followed the operation. He then syringed out the vagina, and passed the uterine sound, which he did each day during her stay in hospital. He used the actual cautery on two occasions subsequently to the removal of the cervix, with the two-fold view of destroying any portion of the disease that might possibly have been left behind, and of expediting cicatrization.

From the day of the removal of the cervix, the vaginal discharges ceased. She left the hospital, the wound being perfectly healed, on the 22d of November, which was the eleventh day from the application of the ligature, and the eighth day from the amputation.

On the 21st of December this female was menstruating *without pain;* she had then become fat; had regained her natural healthy color and spirits; the enlargement of the inguinal glands had disappeared; and she was in the enjoyment of better health than she had been for years.

Cicatrization of the wound, consequent upon operation, took place much earlier in this than in any other case which he finds recorded—a fact he is much inclined to attribute to the use of the actual cautery. Here the parts were perfectly healed on the eighth day after the separation of the cervix; whereas he finds that in others the process was not completed for a period varying from twenty days to six months.

On the removal of the cervix in this case, he passed the uterine sound each day, until the healing process was completed, and for some time afterwards; a practice we had been in the habit of adopting for some years past in cases where disease of the cervical canal, or extensive ulceration of the os uteri, requiring the use of powerful caustics, was present; as in such there is a great tendency in this cavity to narrow or close up—in the one producing dysmenorrhœa, and in the other amenorrhœa. Very recently he had under his care cases illustrative of this position, the subjects of which were cured by the occasional passage of the sound, &c.

The following are Dr. Johns' deductions.

1. That cancerous affections, when confined to the cervix uteri, are in many cases successfully treated by removal.

2. That the only chance of preventing a return of the disease is to remove in a healthy part the cervix from which it grows.

3. That the best and most expeditious operation is amputation of the cervix in a part free from disease.

4. That a hæmorrhage is very likely to follow such an operation: a ligature ought to be thrown around the cervix, as high as possible, for twenty-four or thirty-six hours before amputation.

5. That cauliflower excrescence is a disease to which this treatment is very applicable; as it rarely, if ever, extends beyond the neck of the uterus; and as it is one of the forms of cancer which is least liable to return after the excision of the parts.

6. That amputation of the cervix, in hypertrophy and such like affections of this part, which are curable by simpler means, is not justifiable.

7. That extreme prostration alone, or enlarged superficial inguinal glands, ought not to be a bar to operation.

8. That as inflammation in many forms is likely to follow this operation, an appropriate preventive treatment ought to be adopted.

9. That the use of the actual cautery expedites cicatrization after the removal of the cervix.

10. That as amenorrhœa and dysmenorrhœa are likely to follow on extensive ulceration of the os and cervix uteri, and also when these parts have been removed, the uterine sound ought to be passed from time to time during cicatrization, and for some time afterwards.

11. That with a view to correct the cancerous diathesis, the patient might be put under a course of treatment for some time previous to, and subsequent on, the operation.

12. That a particular form of vertigo is a frequent symptom, and an important diagnostic of uterine disease.

13. That as females suffering from uterine affections are very prone to inter-current affections, which sometimes prove fatal, every means should be adopted to prevent their occurrence.

14. That in all cases of suspicious vaginal discharge, manual examination *at least* ought to be employed.

An old Child at Birth.

[We extract from the Transactions of the N. Y. State Medical Society the following interesting case of extra-uterine conception, reported by Dr. William H. H. Parkhurst, of Herkimer. The old baby, with his baby-house, was exhibited at the last meeting of the State Society.]

Mrs. Eddy was married at the age of twenty years, in New Lebanon village, Columbia county, and with her husband, Amos Eddy, came in a very short time to the town of Frankfort, Herkimer county, where they both lived and died: he at the age of seventy, and she at the age of seventy-seven.

After they had been married for the space of seven years, she became pregnant, and the symptoms attending the early stages were nothing different from ordinary pregnancies. The catamenial secretion, which had always shown itself in a proper manner before this, and which made its appearance about the age of fourteen, now ceased, attended more or less with a fullness about the head, with nausea and occasional vomiting, and many other symptoms which usually accompany this important change of system. As the different months passed away, quickening, as it is termed, took place at the usual time, and after that, motions of the child were felt, and increased in strength during the remaining part of nine months, and, as she firmly stated, for many years after. As so many years had already passed since their marriage, and they had not been blessed with an *heir*, they both looked forward to the time when she should present to her husband an offspring, to crown each other with what they most desired. And in the expectation of all this, the necessary preparations were made, all the little fixings were selected and completed, and laid away in a careful manner for ready use; but like the to-morrow, the wished-for time never came.

At eight months and a half, while preparing a boiled dinner in a large kettle over the fire, the hook gave way suddenly, and the pot fell forcibly into the fire, upsetting and scattering the fire in all directions, and producing, as we might suppose upon the nervous system of a pregnant woman, a shock of surprise and consternation. In the space of two or three hours from this, labor-pains followed, and continued all the afternoon until evening, and with such regularity and force that her lady friend, who had been summoned to her assistance, advised sending for her physician, and Dr. Farwell, who lived in the town of Litchfield (long since numbered among the dead), was sent for, and arrived in the fore part of the evening; after sitting awhile, he told her that he thought he would put her to bed in about three hours; but instead of the labor going on in a more determined manner, as time advanced, her pains began to diminish both in strength and frequency, and in the morning they had left her altogether, and the doctor went home with instructions to be sent for immediately when labor should again come up. The day passed, and she remained in a measure comfortable, and so on day after day, which was thought but little of from the fact the time for her confinement had not expired by two weeks. Mr. Eddy kept his horse up from pasture as a minute carrier, from the time the doctor left for the space of three weeks; and finding that the probabilities were no more favorable for his use than before, he turned his horse again to pasture. About this time Mrs. Eddy's health began to fail; anxieties, which before had been slight, increased; her physician was consulted with deep solicitude, and from day to day her case was carefully watched and prescribed for; each week that followed produced still more anxieties, not only with herself and friends, but with the physician. Already her health became so poor that she kept her bed altogether; her physician became alarmed, and believed that her case was not only enshrouded in much mystery, but that she could not survive long unless a favorable change was soon brought about; hence the views of different physicians were obtained, and a consultation of many of the most eminent medical gentlemen in the country were congregated together, such as Drs. Guiteau, Hull, and the older Coventry, of the city of Utica, and Dr. Joseph White, of Cherry Valley, &c., to deliberate more closely in her case. The result of this investigation led to nothing satisfactory; for no individual physician, nor the whole together, could diagnose the true nature of her condition, though all believed it to be some peculiar growth of the uterus; but none could believe it to be a child.

Month after month rolled away, and at the expiration of about one year and a half, after the most severe suffering, she began slowly to improve. During this time she became greatly emaciated, though her bulk of abdomen, which had been previously large, did not very much diminish. In a gradual manner she fully regained her health; and when she had so far recovered that she could travel around the country, she consulted very many physicians.

During the time that intervened between her recovery and the time of her death, she enjoyed the most perfect health, with the exception of occasional attacks of severe colic, and a spasmodic contraction of the abdominal muscles, somewhat similar to *travail*, which were often so violent that it required medical attendance to remedy the evil. For the first thirty years after her recovery she would often have these attacks, similar to labor, and call in her friends to advise for her, and sometimes would send for a physician. Many times it would require strong anti-spasmodic medicines to control the difficulty.

In stature she was about the middle size, but rather more athletic than the medium. She would carry this burden and do the labor of any ordinary business, and endure it with perfect ease. She would walk, the summer previous to her death, when she was 76 years old, five miles, to our village and back, as quick as any girl at the age of twenty; and this she would do as often as every two weeks, in good weather.

One thing I have neglected to mention, and which, in a physiological point of view, is of some consequence in the history of this case; and that is, after she recovered her general health the uterus recovered its healthy function, its secretion became established, and continued in a regular healthy manner until the usual period of about forty-five, when it ceased in the usual gradual way.

There was nothing interesting connected with the postmortem examination worthy of remark, aside from the fact that a perfectly-formed child was found, weighing six pounds avoirdupois, and was removed in the presence of about twenty persons, mostly aged matrons. The position of the child was found with the occiput resting on and against the symphysis pubis, its face and front looking towards the spine of the mother, reclining a little on its left side, and lying a little to the right of the spine or median line of the abdomen. It had no adhesions or connections with the mother except to the *fallopian tubes*, and the blood vessels which nourished it, which blood vessels were given off from the mesenteric arteries.

This preparation, as is readily seen, is almost entirely enveloped in a firm, dense cartilage. The limbs and head, trunk, &c., are flexed and fixed, as it were, in a proper manner; and then, while in this condition, as though nature in reality looked for convenience in the long necessity for the future, had spread over this material, not only to tie up the extremities, to prevent occupying too large a space, but to form a smooth surface to avoid danger to the mother by lessening friction. The thighs are flexed close to the body, the leg and foot tight to the thigh, the arm flexed close to the body, the fore arm close to the arm, the elbow resting on the knee, the head thrown forward with its face entirely resting upon the sternum, with the hands resting upon the parietal protuberances. This cartilage envelopes the whole specimen like a canvas sack, fitting it in every irregularity. It seems to be formed in consecutive layers, like the grains of the growing tree. One leg and foot, and one elbow is enclosed, instead of cartilage, in an ossific or earthy deposit, upon the side which rested upon or near the spine of the mother. This cartilage, when first taken from the abdomen, was as white and smooth as white earthen. The blood vessels were some of them partly filled with blood.

This woman was born in the year 1775; married in 1795, making her 20 years of age; became pregnant in 1802, seven years after she was married; died in the year 1852; which time, being rightly computed, makes fifty years that she carried this fœtus.

DR. SIMPSON *on Spurious Pregnancy.*

DR. Keiller relates the case of a young woman who was supposed to be pregnant, by her friends, on account of the large size of her abdomen, and the occurrence of pains. Her supposed labor continued for many weeks, and the Cæsarian operation was proposed as the *dernier* resort, by an irregular practitioner. When Dr. Keiller saw her, and made a careful examination, he attempted, but in vain, to disabuse the minds of her relations that she was pregnant. A variety of treatment was instituted, but with no avail; indeed, change of air was the only thing that seemed to do her any good. After one of these removals, she was able to return for a short time to her usual employment at a mill, though her abdomen always remained of a large size. Dr. K. then lost sight of her, until eight years afterwards she presented herself in Edinburgh, with a child that she had had in the interval, complaining that her old symptoms were re-appearing. Her abdomen was very large and tympanitic. She was sent into the Maternity, where, under the advice of Dr. Simpson, she was put under the influence of chloroform. The abdomen immediately became flat, and the uterus was felt to be of its normal size. When the effects of the chloroform passed off, however, the abdomen again resumed its enlarged form. She left the Maternity, and when last heard of, was still suffering under her obscure complaint.

Dr. W. F. Gairdner had lately perused an article published by Mr. O'-Ferral, of Dublin, on Abdominal Tympany, in which a similar observation on the use of chloroform in the diagnosis of such cases was made, but with no mention of the previous investigations of Dr. Simpson.

The President, Prof. Simpson, said that his own observations on the use of chloroform in the diagnosis of such cases, would be found in the same journal, at least three or four years previous to the appearance of Mr. O'Ferral's paper. He believed that cases of spurious pregnancy were often met with in private practice; for many a married lady would acknowledge, when questioned, that she had once or twice thought herself pregnant, when, as the result showed, she was not. He had several cases in his own practice. There were instances in which patients progressed onwards to near the full term of pregnancy, suffering all the usual symptoms and discomforts of that state—sometimes phenomena exactly like those of labor came on at the full term. This seemed to have occurred in Dr. Keiller's patient. Dr. Simpson had seen several analogous instances of spurious pregnancy terminating in spurious parturition. Besides the cases of pseudo-pregnancy in which the patient went on with the usual symptoms of pregnancy till near or up to the full period of labor, there were other varieties of this curious morbid state. In some, for example, the affection lasted only for a few months; in others, they occasionally continued far beyond nine months, and became, as it were, chronic in their character. As to the symptoms themselves, they consisted of the presence of more or fewer of all the usual sympathetic symptoms of pregnancy, such as swelling of the abdomen, nausea and sickness, a feeling of quickening and motion of the child, &c., &c. Dr. K. had stated that the mammary signs were not well marked in his patient,—sometimes, however, they were; and Dr. S. had sketches illustrative of this fact, executed by the patient herself during a state of spurious pregnancy, and in whom, in a subsequent veritable pregnancy, her first, the areolæ did not present a deeper tint than they had done during the pseudo-pregnancy. As to the sensations which had been described in such cases, they were very frequent, and sometimes there were true motory contractions in the abdominal walls.

Dr. S. was inclined to believe that the malady was connected with the ovary. In one aggravated case which had fallen under his observation, there was marked ovaritis, and the ovary subsequently suppurated. Again, it was observed that, although menstruation did occur in the cases which had been noticed, yet it was much scantier than usual, and sometimes the catamenia were wanting for several months. It was well known that the complaint was not peculiar to the human female. Harvey had long ago remarked that, in hounds who were well fed, many of the phenomena of pregnancy, such as swelling of the abdomen, and the presence of milk in the mammæ, occurred both subsequently to unsuccessful sexual intercourse, and also frequently after seasons of heat, and during which there was no intercourse with the male. Dr. S. believed that, when some of the cases of the so-called hysteria in unmarried females were inquired into, they would be found, as he thought he had repeatedly seen, to be really symptoms only of spurious pregnancy. Dr. K. had alluded to the retraction of the limb, as having been a well-marked symptom in his patient. Dr. S. had seen a case many years before the introduction of chloroform, in which the symptom was a prominent one. The lady had been under treatment in

Paris; and on her return to Scotland, a surgeon examined her, and recognized, as he supposed, the presence of a large ovarian tumor. Dr. S. was consulted; and on percussing, he found the abdomen quite tympanitic, and of course negatived the tapping, and the presence of any ovarian tumor. The leg, in this case, was much drawn up; and he was informed that, while in Paris, the heel was for a time closely applied to the back of the neck. With regard to the nature of the abdominal swelling in spurious pregnancy, he had tried various experiments to ascertain its cause, but in vain; and as yet he could come to no decided conclusion on this subject. It had been suggested that while the patient was deeply under the influence of chloroform the contained air escaped unobserved; but in one very marked case in the hospital, means were employed to detect the escape of the air; but all such failed. The diaphragm he believed to be the chief agent in producing the swelling. The chloroform, he believed, acted by relieving the muscles, diaphragmatic and abdominal, from the influence of reflex action, and permitting their relaxation. Dr. K. had classed the interesting case which he had communicated under the head of hysteria, but some of the cases to which Dr. S. had alluded could scarcely be properly included under that designation. Dr. Matthews Duncan had lately seen a case where the explanation of abdominal swelling was completely made out. A young lady had been long in bad health; her chief symptoms were referable to the left hypogastric region, which was very tender, dull on percussion, and extremely distended. Called in consultation, he recommended the production of deep anæsthesia, as a diagnostic aid. Long before the girl was insensible he remarked the great anterior arching of the lumbar vertebræ, which, as insensibility came on, disappeared; the spine coming to touch the mattrass, from which it was before far removed. At the same time (no doubt from relaxation of the diaphragm and anterior abdominal muscles) the abdominal distension disappeared, and also the left iliac fulness, to the great relief of her anxious friends. He thought it very important to distinguish cases of spurious pregnancy from cases of false pregnancy. Real cases of the former disease were common in the lower animals, but he thought not very common in women. From these, where not only was there no deception, but the real existence of many of the signs of pregnancy, should be carefully separated cases of false pregnancy. These last were of various kinds. In some the female merely wished to deceive, in others she was herself simply deceived, easily undeceived, and the phenomena found were explicable without supposing spurious pregnancy. In a third class of false pregnancies, we had a good example of the so-called electro-biological state. The female's mind was impressed with the unshakable conviction that she was pregnant; and under these circumstances some of the symptoms of pregnancy were induced. [ED. *Med. Monthly.*

Case of total Inversion of the Uterus, in which extirpation of the entire organ was successfully practised. By E. Geddings, M. D., Professor of Surgery, &c., Medical College of the State of South Carolina.

On the 16th of May, 1854, I was requested, by Dr. A. P. Pelzer, to meet him in consultation, in the case of a negro woman belonging to Mr. Robt. White, in King-street. On my arrival, Dr. Pelzer called my attention to a large pyriform tumor, equal in magnitude to a fœtal head at the full term, which, proceeding from within the vagina, hung pendant between the thighs. This tumor was large and rounded below, but contracted into a rather thick pedicle above, which could be traced about three-fourths of an inch within the vulva, at which point its contour was surrounded by a kind of *cul de sac*, beyond which the finger could not be passed. Its whole surface was covered by a rough, thickened mucous membrane, abraded and ulcerated on many points, considerably inflamed, and disposed to bleed when roughly handled. In the general aspect, it bore a strong resemblance to a case of prolapsus of the uterus of long standing; but the uniform roundness of the most dependent part, together with the absence of the os tincæ, served at once to convince us that it was of a totally different nature.

The first supposition that presented itself to my mind was, that it might be a case of prolapsus of the bladder, of such long duration that the walls of the organ had become very much thickened, and otherwise altered in texture. But on introducing the catheter, and passing my index finger around the neck of the tumor within the vulva, I was enabled readily to discover that it was a case of complete inversion, with extensive hypertrophy, of the uterus, of ancient date. The orifice of the uretha was but little removed from its normal position; and in passing my finger up, on the posterior and lateral aspects of the neck of the tumor, as far as the reflected walls of the vagina would allow it to reach, I could distinctly discover the elastic feel imparted by the convolutions of the small intestines, which rested on the partially inverted walls of the vagina.

How long the inversion had existed could not be satisfactorily ascertained; but as there is reason to suspect that the accident must have occurred at the period of her last delivery, an approximative conclusion may be drawn from the fact that her youngest child, a daughter, was present, and had the appearance of a person of from eighteen to twenty years of age. The report of the woman herself was, that she had been greatly annoyed by the tumor for many years, but had generally been enabled, by partially forcing it up into the vagina, and sustaining it there by means of a T bandage, to pursue her ordinary avocations. Latterly it had increased so much in size as to render this impracticable; and at the period of our visit, any attempt at replacement, however partial, was productive of excruciating pain. She was, besides, suffering so much from engorgement and inflammation of the inverted organ, that, considering this, together with the partial and uncertain benefit likely to accrue from any merely palliative treatment, it became a serious question how we could most readily and efficiently relieve our patient.

Reflecting on all the circumstances of the case, it occurred to me that excision of the entire inverted organ presented a rational prospect of relieving, not only the present sufferings, but also the cause of much future annoyance. The vagina being also partially inverted, the danger of such an operation was materially diminished; inasmuch as we would, in consequence of that condition, be enabled to excise the entire mass by cutting through the vaginal walls, thus leaving the substance of the uterus untouched.

Dr. Pelzer concurring with me, I seized the neck of the tumor as high up as possible, between the thumb and index finger, and manipulating in such a manner as to satisfy myself that it contained none of the convolutions of the intestines, I proceeded to include it in a strong ligature, for the two-fold purpose of preventing the protrusion of the intestines and obviating any serious hæmorrhage. The neck of the tumor was then cut through, a little below the ligature, with a single swipe of a probe-pointed bistoury.

The operation was exceedingly simple and easy; was attended with no great pain; and, as may be supposed, was executed in a few seconds.

The after-treatment presented no features of particular interest; and the case progressed so favorably that, after a few days, I was enabled to discontinue my visits, leaving the patient in the hands of Dr. Pelzer; who, in a short time, transferred her to Prof. Frost, the family physican, who, at the period of our attendance, was absent from the city. She speedily recovered, and, as I understand, has since done well.

On making a section of the tumor, it was found to present a solid, homogeneous mass, of a greyish white texture and fibrous appearance. The whole cavity formed by the inversion of the walls had become obliterated by adhesions between the opposing peritoneal surfaces; but the point of junction between the vagina and the contour of the cervix could be distinctly recognized; the incision, as stated above, having passed through the walls of the vagina.

Partial and complete extirpation of the uterus, for various objects,—inversion, prolapsus, carcinomatus, and other degenerations of its structure,—has been so often practised, that the simple operation the description of which I have detailed, possesses no claims to interest in point of novelty; yet it has some value as affording an additional instance to prove that, under similar circumstances, the unfortunate victims of a displacement so deplorable, may often be relieved of much suffering and inconvenience. It might be interesting to collect full references to the numerous cases in which extirpation has been practised on account of inversion; but, as I have not time to execute the task, I must content myself with this brief and imperfect exposition of a single case.—*Charleston Med. Jour.*

Pessaries in the treatment of Prolapsus.

[Prof. Dugas, editor of the Southern Medical and Surgical Journal, in the last number of this Journal strongly condemns the use of pessaries. Our limits will only permit the following extracts.]

We insist that the use of pessaries does not, and cannot, remove the cause of prolapsus uteri; viz., relaxation of the physical supports of the uterus. In the first place, unless all our principles of physiology and pathogenesis be erroneous, the presence of a foreign body wedged into the vagina and against the os tincæ, with sufficient force to obviate prolapsus uteri, and continued for any length of time, must necessarily induce a pathological condition of the mucous surface more or less serious, if there existed none before, and materially aggravate such as may have been present previously. This is so self-evident that no argument can be adduced against it, save such as may be derived from *experience*—of the value of which we have already spoken sufficiently.

Pessaries *cannot* remove the relaxation upon which principally depends prolapsus uteri; because instead of increasing the tonicity of the tissues, they lessen it. This is especially true with regard to every variety of pessary, except those provided with a stem. All the instruments of the kind which derive their support by resting upon the vaginal walls, whether their form be that of a disc, of a globe, or of a plug, must of necessity dilate the canal, and thus impair its powers of resistance: the contractility of its muscular fibres and the elastic retraction of its other tissues will be diminished to such a degree that the size of the instrument itself will soon have to be increased. And yet we are asked to believe that a canal thus dilated to the uttermost, and relaxed in a corresponding degree, can, after ceasing to use the pessary, prevent the descent of the uterus, which it could not accomplish before; in other words, that the prolapsus can be *cured* by dilating the vagina! We must confess that our credulity is not adequate to the requisition. We have already observed that our experience is utterly opposed to the admission of that of others.

On Bright's Disease. By Dr. H. BENCE JONES, F. R. S., Physician to St. George's Hospital.

Congestion causes the diffusion of albumen, fibrin, and blood globules; and a decrease of the specific gravity of the urine at the same time occurs, in consequence, probably, of the congestion hindering the escape of some substances out of the blood. By Bright's disease, precisely the same effect on the urine is produced. Between the urine passed by a patient after the cholera, or after scarlet fever, and the urine of a patient with Bright's disease, I see no difference whatever, either chemically or microscopically. The low specific gravity in Bright's disease is to me produced by exactly the same cause as the low specific gravity when the kidneys are inflamed after injury of the spine, or when they are congested in cases of chylous urine. Generally, the decrease of specific gravity may be taken as the index of the extent to which the kidney is affected; that is, the lower the specific gravity of the urine when albumen is present, the greater the alteration in the circulation through the kidney; the greater the congestion in chylous urine and after cholera; the greater the inflammation in spinal cases, and the greater the so-called degeneration (the effect of congestion and inflammation) in Bright's disease.

There are two opposite classes of cases of Bright's disease, which require to be pointed out as exceptions to this law. In one class of cases there is considerable thirst, and very large quantities of urine are passed daily; and the specific gravity is consequently thereby reduced. In the opposite class of cases, the quantity of urine passed daily is exceedingly small; and hence the specific gravity rises sometimes very considerably above the healthy standard.

I shall illustrate both these classes by some examples.

A medical man was sent to me from the country, under the impression that he was suffering from diabetes, as well as Bright's disease. He had no urine with him, and I asked him to come the next morning with the urine made at night. The following day he brought four quart bottles full, which he said was about the usual quantity passed in twelve hours. It contained no sugar, had a specific gravity of 1006, and was highly albuminous.

A woman, aged 43, who had œdema of the legs two months, was in the habit of passing three quarts of urine in twenty-four hours; the specific gravity usually was 1007 to 1010. She always complained of great thirst. On one occasion, the quantity of urine was three quarts in fourteen hours; the specific gravity was then 1004.

A farmer, aged 50, was brought to me for diabetes. The urine was highly albuminous, contained no trace of sugar. The usual quantity was seven pints in twenty-four hours; the specific gravity was 1010. His only complaint was of head-ache.

Many similar cases I might bring before you; but these are sufficient to show that the quantity of urine must be taken into account before any conclusions as to extent of the degeneration of the kidneys can be drawn from the specific gravity of the urine.

I pass on to the opposite exception,—to the law that the specific gravity indicates the degree of disease of the kidney.

A woman, aged 38, had swelling of the legs for three months. She had a healthy, florid look, The dropsy was excessive. At one period of her illness, only three ounces of urine were secreted during one night; the specific gravity was 1036.2. It was intensely albuminous, loaded with urates, and contained many fibrous casts. For six weeks after her admission into the hospital, the quantity of urine was seldom more than half a pint in twenty-four hours; the specific gravity was from 1027 to 1033. In six weeks more, the urine became more plentiful, specific gravity 1017.4. She gradually became comatose, and died.

A woman, aged 21, had swelling of the legs for twelve months. They were always most swelled when the catamenia were present. The face was flushed and full. In twenty-four hours, half a pint of urine was made; it was exceedingly albuminous, loaded with urates; specific gravity 1035. She complained of sickness and drowsiness. By aperients and the vapor-bath, the urine became clear. The specific gravity fell to 1030, and the dropsy was lessened. After she left the hospital, I lost all knowledge of the progress of the disease.

Other cases like these I have seen; and from them I cannot but warn you from founding a favorable prognosis from urine of high specific gravity, even when urates are precipitated.

These exceptions lessen considerably the value of the knowledge to be derived from the specific gravity of albuminous urine; but by accurately observing the quantity of urine as well as its weight, you may approximately determine the amount of congestion in the kidney; and, if this be frequently determined, the existence and degree of the disease of the kidney may be foretold.

Having spoken of the quantity and specific gravity of the urine in Bright's disease, I will pass on to the quantity of albumen in the urine.

In my last lecture on chylous urine, I showed you how rapidly the urine may vary in the quantity of albumen which it contains; and in this, as well as in at least one other disease (mollities ossium), large quantities of albuminous substance may be thrown out by the urine without the existence of any serious disease of the kidney. The quantity of albumen is a test of the amount of congestion of the kidney at that time; and if at all times a large quantity is found in the urine, it indicates that the kidney is always highly congested, and it becomes most probable that this is produced by organic changes in the texture of the kidney. Thus the amount of albumen in urine is often considered as bearing a direct relation to the amount of degeneration in the kidney. If this were so, then little albumen in the urine would, on the other hand, indicate slight affection of the kidney; whereas there may be the most extensive disease of the kidney, and some cause may be in action which temporarily prevents the congestion of the kidney (as, for example, some determination of blood to some other part of the body), then the amount of albumen in the urine may be very much diminished, and sometimes none at all may be detectible.

A laborer, 55 years old, was admitted on the eighth day, of acute pleurisy of the left side. The heart was displaced, the cavity of the chest being full. There was a history of œdema some months previously; and as his heart was healthy, the urine was carefully examined, but no trace of albumen could be found. The effusion increased: the day but one after his admission, the urine was again examined; it was quite free from albumen; specific gravity, 1025; it was not nearly so deep colored as it usually is found to be the case in pleurisy. A week after his admission the difficulty of breathing increased; he had an epileptic fit; the urine was still not deep colored, contained a little urate of ammonia; specific gravity, 1022; it gave a precipitate of earthy phosphates by heat, nearly clearing with a drop of dilute hydrochloric acid; nitric acid alone gave a slight cloudiness. On account of the difficulty of breathing, paracentesis was performed: eighteen ounces of purulent fluid were drawn off. Shortly after the operation, the breathing was free; two hours after, the pulse was irregular and unequal, and the difficulty of breathing was nearly as bad as before. During the night he had three attacks of convulsions: in the last he died.

Feb. 9, 1847.—On examination, both kidneys were highly granular.

Sometimes the albumen is absent only at the commencement of an acute inflammation of another part.

A youth, aged 16, was in St. George's Hospital, under Dr. Chambers. He had some œdema and much fever, with rigors. In a day or two he complained of excessive pain in the left side; the urine did not coagulate with heat alone, and very slightly with nitric acid. In four days the heart was pushed to the right of the sternum; the fever was diminished; the urine was more coagulable by heat and nitric acid; one specimen had specific gravity 1015, another 1010. At the end of another fortnight, the urine remained still coagulable by heat and acid. On account of the difficulty of breathing, paracentesis was performed, and about four ounces of pus were drawn off from the chest. The difficulty of breathing increased, and he died forty-eight hours after the operation.

When the capsules of both kidneys were removed, the surface appeared quite smooth; the vessels were injected; the substance looked more white than natural. On section being made, there was an increase of cortical structure, which was much more mottled than natural.

These, and many such cases, prove that the quantity of albumen does not indicate the amount of disease in the kidney; but it does show the amount of congestion at the time of the observation. A highly diseased kidney may be very slightly, or not at all congested; and a highly congested kidney may be very slightly diseased. The quantity of albumen may be very small in the first case, and very great in the last.

The general rule that the quantity of albumen is proportioned to the state of the congestion of the kidney, is of great importance for treatment and prognosis; and the exceptional cases mentioned above only confirm the general rule, that the quantity of albumen indicates the degree of congestion, and not the degree of degeneration. Such cases are also instructive, because they show the necessity for making more than one or two examinations for albumen before it is concluded that no disease of the kidneys exist.

In the first of the two last cases, I have mentioned the pale color of the urine at the time when acute inflammation of the pleura was present. This paleness of color may be very frequently observed when blood is not present to discolor the urine. When the kidneys are healthy, acute inflammation causes the urine to become deeply colored, almost proportionately to the intensity of the inflammation; but when the kidneys are diseased, this proportion ceases. In Bright's disease the most intense inflammation of a serous membrane may exist, and yet the urine throughout may show no alteration of color or appearance.

Among many examples of this, perhaps one of the most striking that I have seen was in a medical man, who for many months had pale, straw-colored urine, highly albuminous, specific gravity about 1010. He was attacked by acute pericarditis, with delirium and loss of sleep. His symptoms exactly resembled those which occasionally occur in the pericarditis of rheumatic fever. He died about the tenth day of the inflammation: the urine throughout presented no change whatever in color or specific gravity; it had no resemblance to the urine of acute inflammation.

Such, then, are some of the facts which may be derived from observation of the specific gravity, the coagulability, and the color of the urine, in cases of disease of the kidney. You will see from this, that chemistry cannot tell the exact state in which the kidney will be found after death, but it does give much help in determining the state of the circulation through the kidney during life.

That which chemistry is unable to effect, the microscope professes to make clear. According to the microscopic appearances of the urine, the appearances observed in the kidney after death have been subdivided into many different diseases; and instead of a single disease in different states of congestion and stages of deposit, we are asked to recognize as many different diseases as there are different microscopic appearances in the urine. Thus, in urine may be found,—1st, tube-casts, with recent gland cells; 2dly, waxy tube-casts; 3dly, fatty tube-casts; 4thly, casts with fibrin; 5thly, casts with pus or blood. These are said to be the distinctive signs of nearly as many distinct diseases. First, of acute or chronic desquamative nephritis. The second disease is, waxy degeneration of the kidney. The third, fatty degeneration; and this is divided into two perfectly distinct diseases—granular fatty degeneration, and mottled fatty degeneration. The fourth disease, corresponding to the fourth microscopic appearance, is acute and chronic non-desquamative nephritis. The fifth disease is suppurative nephritis. This subdivision can scarcely fail to remind you of the proposed subdivisions of some cutaneous diseases, founded on the appearance of the eruption. There is no practical gain in subdividing scabies or erysipelas into different diseases, according to the appearances of the eruption. What, think you, was gained by assuming as many different syphilitic poisons as there were different forms of secondary syphilitic eruption? I shall keep to the simpler view, which appears to me to be truer, simpler, and more practical: a single disease, in different states and stages of congestion, deposit and wasting, not arising from the elimination of any particular animal poison, but produced by a diseased state of nutrition leading to the deposit of fibrin, fat, and pus, and ultimately to the wasting of the structure of the organ.

Such are the broadest outlines of the different views of Bright's disease. There are, at present, four cases of this disease under my care in the hospital. You will see how little assistance, in regard to their treatment, can be derived from the microscopic examination of the urine. Nevertheless, with the hope of arriving at more certain knowledge, the microscopic appearances of the urine should be carefully observed. You may thus help to determine, whether there is a vital process of desquamation,—a rapid formation and shedding of renal gland-cells; whether the so-called large, granular fat kidney and the small, contracted kidney are the result of two essentially different morbid processes; whether the epithelium in this last state is disintegrated and swept away, and in the former state transformed into fat; whether the smooth, mottled, fatty kidney, or whether the deposit of fat is not unessential in both states of kidney, appearing as pus, may appear in any stage or state of the disease.

Those of you who may have the opportunity of seeing much of scarlet fever will, by careful microscopic examination of the urine, be able to add importantly to our knowledge. The late Dr. Miller, than whom I know no one who had so carefully watched the sequelæ of scarlet fever, and from whom, if his life had been spared, more valuable knowledge would have been obtained, told me that he had seen in the urine every variety of microscopic appearance attributed to Bright's disease; and that in post-mortem examinations no distinction could be made; for all forms of deposit were to be found after scarlet fever. The microscopical questions regarding the state of the urine after scarlet fever, will repay the minutest and most extended research. Whatever you observe, note it carefully, and publish it slowly; for premature publication leads only to corrections, and ends in disputes.

You will say, What is to guide me in my prognosis and treatment? I reply, Do not trust alone to the microscopic appearances in the urine, but take the case as a whole. In a case of consumption, it is rarely that you can determine by the stethoscope alone the course which the disease will follow, or the best treatment to be adopted. The stethoscope may give most important assistance; but the history, the general symptoms, the special circumstances, will still more correctly determine your judgment as to the duration of the case and the most suitable treatment. So, also, in renal diseases. The microscopic examination may give most valuable knowledge regarding the state of the kidney, *e. g.*, the pus may indicate suppurative inflammation; the blood, a loaded state of vessels; the fibrinous casts, the degree of recent congestion; the fatty matter, the duration, perhaps, of the evil; but it is far more important to take all the features of the case than to make the microscope the sole foundation for your prognosis and treatment.

In albuminuria, as in other diseases, take the history first. If you can trace the complaint to scarlet fever, to sudden cold, or to pregnancy, the chance of recovery is far more favorable than if the disease has insensibly approached. I could give you many instances of recovery, where the disease commenced from such causes; but I know of no perfect recoveries, where a bad state of health has given rise to disease of the kidney as a secondary consequence of a previous cachectic state.—*Med. Times and Gazette.*—*Braithwaite's Retrospect.*

PART IV.—HOSPITAL RECORDS.

(*Crowded out by press of matter.*)

PART V.—EDITORIAL AND MISCELLANEOUS.

[The following letter was addressed to the Agent or Actuary of one of the principal Life Insurance Companies in this city, in reply to a request to answer the usual interrogatories submitted to the ordinary attendant of the person whose life is proposed for assurance :]

Dear Sir :

I have not, for several years, answered the questions proposed by insurance companies " to the physician of the person " whose life is to be insured, without an appropriate fee *from such companies.*

It has been the constant and universal practice of Insurance Companies to obtain the opinions of medical men in this way, without offering any remuneration for such opinions; and,—without meaning any disrespect to the individual members,—I assure you, I have always considered it a disreputable practice with these companies, thus to *sponge* from a professional man an opinion based on acquirements which are as much a part of his capital in trade as the stock of those companies is theirs.

I am aware that it is usually asked on the ground, that it is for the benefit of the patient that the opinion is desired. This I deny. It is of no consequence to the patient, if he obtains his policy, what his physician's opinion is in regard to his case, so far as the assurance on his life is concerned; but it is of very great importance with the company assuring his life, that they have the true professional opinion of the medical man who is attendant, in ordinary, of the patient whose life they propose to assure—for the very evident reason that *he* knows more of the individual's health, and of the risk involved in that assurance, than any other man can know. It is for these reasons simply a matter of justice, that Insurance Companies should be required to pay for such opinions.

I therefore decline in this, as well as in all other similar cases, to give my opinion without the usual fee from the company; and every other medical man who entertains a just sense of the dignity and worth of his profession will decide, under the circumstances, to act in the same way.

Very respectfully, &c.,

——— ———, M. D.

[This very question, alluded to in the above letter,—" Who ought to pay the surgeon's fee ?"—has been agitated quite recently among the London medical profession. In an article on this subject, published in the November number of the *London Medical Times and Gazette*, the Editors hold the following language.]

The patient, the applicant to the office, cannot be benefitted by the opinion of his medical attendant; the office must, in every case, be benefitted. The association must, for its continued existence, gain new members; it is to the advantage of the association that those members be good lives. The medical opinion secures them good lives; and, therefore, we say the medical opinion "confers an obligation on the society rather than on the patient." Never was a more just demand for payment made than that of the medical practitioner for an opinion given under seal to an insurance office; and we earnestly trust that our professional brethren will, one and all, and on every occasion, decline to answer any questions forwarded to them by the repudiating offices, and also in every way exhibit their want of trust in offices the directors of which decline to pay that which in equity they are bound to pay. Confidence in the *public* moral principle of the managers of such offices should be withdrawn by every member of the profession.

The farce of making the man who applied to have his life assured sign the application, which is to be returned sealed to the secretary of the society, and then pretending that the former, and not the latter, requires the opinion,—an opinion which may cause him to be rejected,—is too trumpery to be played with any effect; and we should strongly advise the managers of the London Life Association to have it withdrawn *instanter*, if they desire their office to hold even a moderately respectable position. The directors of the Association must know, the secretary must know, the candidate for assurance, and the profession know, that it is—we can use but one word to express it—pure humbug. H. G.

Solidified Milk.—A few days since we had the honor of an invitation to accompany a committee of medical gentlemen appointed by the New York Academy of Medicine, to visit the establishment where the above-mentioned article is prepared. After an agreeable railroad trip of 80 miles or thereabouts, in the Harlem cars, with Dr. Griscom, Chairman of the Committee, Drs. Isaac Wood, Blakeman, Shanks, White, and Dr. C. T. Harris, Chemist, who for several years has been associated with Mr. Blatchford in perfecting the preparation, we reached Amenia, some 20 or 30 miles east of Poughkeepsie, Dutchess Co. Here we were joined by the venerable Dr. Blatchford of Troy, whose son is proprietor of the establishment. Conveyances were in readiness to carry us a few miles nearer the Hudson, over rolling hills which afforded a fine opportunity for judging of the pasture ground, as well as ventilating our lungs of city air. No member of the Committee ventured suggestions of slop milk.

While some of the party spent the night with the proprietor, others of us enjoyed the politely offered hospitality of Dr. Smith, who regaled us with a scientific treat in the shape of the most beautiful and neatly classified private collection of minerals we have ever chanced to see.

By day-break the Chairman of the Committee was aroused (the penalty of office) to be present at the milking, that he might testify as to the purity of the source of the milk, and the appearance of the cattle.

After our morning repast, we were invited to witness the process of *solidification.*

To 112 lbs. of milk, 28 lbs. of Stuart's white sugar were added, and a trivial proportion of bi-carbonate of soda, a teaspoonful, merely enough to ensure the neutralizing of any acidity, which in the summer season is exhibited even a few minutes after milking, although inappreciable to the organs of taste. The sweet milk was poured into evaporating pans of enameled iron, embedded in warm water heated by steam. A thermometer was immersed in each of these water baths; that, by frequent inspection, the temperature might not rise above the point which years of experience have shown advisable.

To facilitate the evaporation,—by means of blowers and other ingenious apparatus,—a current of air is established between the covers of the pans and the solidifying milk. Connected with the steam engine is an arrangement of stirrers, for agitating the milk slightly whilst evaporating, and so gently as not to *churn* it. In about three hours the milk and sugar assumed a pasty consistency, and delighted the palates of all present; by constant manipulation and warming it was reduced to a rich, creamy-looking powder, then exposed to the air to cool, weighed into parcels of a pound each, and by a press, with the force of a ton or two, made to assume the compact form of a tablet (the size of a small brick), in which shape, covered with tin foil, it is presented to the public.

Incidentally we had an opportunity of judging of the cleanliness of the establishment; for while in some of the pans the process of evaporation was being completed, others were being washed for a second charge. (One of the Committee hinted, that the refuse washings were no bad approach to much of our city milk.) Great precaution was used lest any of the first evaporation should be subjected to a second heating, as the last batch might thereby be spoiled.

During the day the Committee made an excursion through the thousand acres of pasture land, connected with the establishment, and visited some of the commanding points of view from whence might be seen in a glance, the hills of Connecticut, Massachusetts, and the cloud-crested Kaatskills of New York. This panorama of distant hill tops, of green grass, and blue sky, will not fade from remembrance. To vary the entertainment, attempts were made to secure a few frogs, for exhibiting the *circulation of the blood*, making *frog batteries*, etc., but with limited success—the weather being cool, only two were netted and bagged. The old mountains echoed and re-echoed many a hearty peal of laughter at the anecdotes of medical experience, which might prove a valuable addition to the "Diary of a Physician."

After a sumptuous dinner, we had the honor of being requested to read to the Committee a monograph on the chemical constitution of milk, with an exact account of each of the important ingredients involved in the process of solidifying and preserving this article, written by Mr. Dalson, the chemist to whose talent we are indebted for this invaluable preparation.

After a vote of thanks on the part of the guests to their host and hostess, and an expression of gratification on the part of the proprietor to the Committee for their interest and apparent satisfaction, we resolved ourselves into a committee of cooks, dairymaids, experimenters, tasters, etc.

Some of the solidified milk which had been grated and dissolved in water the evening previous, was found covered with a rich cream, this, skimmed off, was soon converted into excellent butter. Another solution was speedily converted into wine whey, by a treatment precisely similar to that employed in using ordinary milk. It fully equalled the expectations of all; so that solidified milk will hereafter rank among the necessary appendages of the sick room. In fine, this article makes paps, custards, puddings, and cakes equal to the best milk; and one may be sure it is an unadulterated article, obtained from well-pastured cattle, and not the produce of distillery slops—neither can it be *watered.*

For our steam-ships, our packets, for those travelling by land or by sea, for hotel purposes or use in private families, for young or old, we recommend it cordially as a substitute for fresh milk.

We look with interest for the scientific report of the committee of the Academy of Medicine, in which we hope for an exposition of the domestic, culinary, and hygienic properties of solidified milk. †

Penitentiary Hospital.—There are, in the Penitentiary Hospital, Blackwell's Island, 479 patients; 370 of whom are females, and 109 males. Two hundred of the above are cases of syphilis in its different forms; 100 uterine diseases; the balance, delirium-tremens, debauch phthisis, scrofula, ulcers, fever, injuries, &c., &c.

Cholera has entirely disappeared from the Hospital, Alms-Houses, and Work-House. There occurred at the above institutions, between the 28th of July and the 22d of August, over 300 cases of cholera. The *calomel and opium* treatment was chiefly relied on, and was successful.

The Penitentiary Hospital is in fine order, and contains 189 more patients than it did last year at this date. During the coming month a complete system of ventilation will be introduced, under the supervision of Dr. Sanger, the able and accomplished resident physician; $500 having been appropriated by the Ten Governors for that purpose.

EMIGRANTS' REFUGE, WARD'S ISLAND; WEEKLY REPORT FROM SEPT. 10 TO SEPT. 16, 1854.

	Female.	Male.	Total.
Remaining in the Institution at the last report,	1,083	1,107	2,190
Admitted since,	101	170	271
Total,	1,192	1,280	2,472
Discharged since last report,	92	162	254
Died,	11	16	27
Total,	103	178	281
Remaining in institution,	1,089	1,102	2,191

Children under 32 years of age, 696.

Summary Statements for the week ending Sept. 20, 1854.—Alien immigrants arrived up to 13th, 217,662; since arrived up to 20th, 9,474; total, 227,136. Total to Sept. 20th of last year, 202,243. Patients in Marine Hospital, 177; Nurses in do., 68; Adults in Ward's Island do., 934; Children in do., 277; Persons employed, 96. Total in Ward's Island, 1,307. Adults in Refuge Department, 561; Children in do., 420; Persons employed, 120. Total in Refuge Department, 1,100.

MEDICAL SCHOOLS—SESSION OF 1854–5.—The season approaches for the opening of the winter session of our Medical Colleges. To these institutions, now numbering upwards of forty, each having its full complement of teachers, is intrusted the great interests of the profession in this country. They are to give the stamp to the future character which it will maintain, whether high-toned, practical, and scientific, or mercenary, empirical, and superficial. Their responsibilities, therefore, are of no ordinary kind, and their claims to patronage should be thoroughly canvassed by every physician who has pupils in charge, to whom he acts as an adviser. Let him consider well the real advantages of the different schools for giving such instruction as he knows from experience they must need, with the qualifications of the various teachers to employ such advantages for the pupils' greatest good.

We have frequently spoken of the advantages of New York for medical teaching, and deem it our duty to recur to them again in the annual announcement of the opening of our Medical Colleges.

The most important advantage which mere location can give one medical school over another, is in respect to clinical teaching. The time is fast approaching when clinical teaching will be deemed an indispensable part of a thorough course of didactic instruction. A growing disposition manifests itself yearly among all ranks of students to obtain access to the wards of hospitals, and learn from actual experience, and apply at the bed-side the lessons which they have but indifferently learned in the lecture room. And it is gratifying to witness this increasing estimation of clinical studies; for it is the only true method of graduating a clear-minded, practical class of physicians, who can safely go from the college halls into the active and responsible duties of their profession.

In this single respect, location gives to the Schools of New York, an advantage well worthy of consideration. The materials for clinical instructions at their command, exist in the greatest abundance. The immense native and immigrant population that seeks medical advice and assistance at her public charities, is without parallel. The following statistics gathered from the annual reports of the several Dispensaries, exhibits the number of patients treated at these Institutions during the year 1853: City Dispensary, 46,338; Eastern, 23,114; Northern, 14,075; Demilt, 9,006; North-Western, 4,948; total, 97,481. If we add to this number the patients treated at the different Hospitals, Asylums, &c., the aggregate will not fall below 150,000.—*N. Y. Jour. of Med.*

DEATH OF PROF. SWETT.—Died, in this city, on Monday, Sept. 18th, John A. Swett, M. D., aged 45 years, of "Bright's disease." He was Professor of Theory and Practice of Medicine in the University Medical College, and Physician to the New York Hospital. He was particularly eminent in diseases of the chest; and his work on this subject is well known to the profession.

At a meeting of the Physicians and Surgeons of the New York Hospital, held at the Institution on the 19th of September, 1854, on the occasion of his death, of which Dr. THOMAS COCK was chosen Chairman, and Dr. BULKLEY, Secretary, the following resolutions were unanimously passed:

Resolved, That the Physicians and Surgeons of this Hospital have heard, with deep regret, of the death of their colleague, JOHN A. SWETT, M. D., one of the Physicians of the Institution.

Resolved, That we recognize in this dispensation of Providence the removal of one whose life has exhibited exemplary devotedness to his profession, and whose labors and contributions to medical science, and especially to that department with which his reputation is more intimately connected, have done much to elevate its character and usefulness.

Resolved, That in his death we are called to mourn the loss of one endeared to us by many social qualities, whose honorable deportment and integrity of character have ever commanded universal respect and esteem.

Resolved, That Dr. JOHN WATSON be requested to prepare a memoir and address on the life and services of our deceased colleague, to be delivered at this Hospital at some future time.

Resolved, That a copy of these resolutions be transmitted to the family of the deceased.

THOMAS COCK, M. D., *Chairman.*

H. D. Bulkley, M. D., *Secretary.*

It is with heartfelt regret we take our pen to record the decease of the illustrious chemist, Dr. Charles Enderlin, by whose indefatigable labors in the laboratory the pages of physiological chemistry have been so greatly enriched. His loss will be deeply deplored by the scientific men of both hemispheres; as he ranked among the pioneers.

Through the kindness of an intimate friend, we learn that he was born at Steinbach (Baden), Germany, April 16th, 1813; that he pursued the study of pharmacy under Geiger at Heidelburg, that of medicine in the same city and in Würzburg, and completed his chemical course under Liebig at Giessen.

His contributions to physiological chemistry appeared as a series of communications in Liebig's Annalen:—

In 1843, "On the Acids of the Gastric Juice;" in 1844, "Physiologico-Chemical Investigations on the Constitution of Human Blood and the Blood of different Herbivorous Mammalia;" in the same year, "On the Constitution of *Bile* and of *Saliva;*" in 1847, "On the Constitution of the Blood of Birds and Fishes;" also, two analyses of the blood of frogs.

All of the above investigations referred especially to the mineral constituents of the liquids, and was sustained by long series of analyses of their ashes.

In 1848 appeared a continuation of his investigations of the blood of birds, fishes, etc.; in 1850, "Special Researches on the Quantity of Potash in the Blood, and the relative proportions of potash and soda;" in the same year, "On a Specific Metamorphosis of the *Bile* of the *Ox*, as a contribution to the knowledge of the chemical constitution of bile in general;" and again, "A Communication on *Human Bile* and *Biline;*" also one "On the presence of *bile* in the *blood.*"

Although the greater part of his investigations were devoted to the highest department of his favorite science, chemistry as applied to physiology; yet, after his arrival in the United States, Oct. 8th, 1850, and his successful establishment of a laboratory in this city, agricultural chemistry and mining operations attracted his attention. In fact, it was on his return from a mining excursion in Canada, while at the railroad depôt in Hamilton, C. W., that he was struck senseless, and died a week after, on the morning of Sept. 16th; the immediate cause of his decease being pronounced by the attending physicians as compression of the brain. His remains were interred in Hamilton.

His gentlemanly bearing, manly character, and warm heart, as well as his profound erudition, endeared him to all who enjoyed his acquaintance or called him friend. For those who claimed him by the more endearing ties of husband and father, we offer our sincere expressions of sympathy.

We trust the numerous and valuable unpublished papers of Dr. Enderlin may not be lost to the scientific world. R. O. D.

THE AMERICAN MEDICAL MONTHLY.

NOVEMBER, 1854.

PART I.—ESSAYS, MONOGRAPHS, AND CASES.

Is the Practice of Medicine based on Science? Portion of an Introductory Lecture, delivered at the New York Medical College, Oct. 18th, 1854. By Edward H. Parker, M. D., Professor of Physiology and Pathology, &c., &c. Published by request of the Faculty.

Of the learned professions, medicine alone rarely seeks the aid of rhetoric and eloquence. Its disciples are not trained to compete in acuteness or in wit, or to make the worse appear the better reason, neither are they privileged to address the public with the sacred authority of the pulpit, unanswered by any opponent, and allowed by the force of prejudice and presumption to be in the right. Their sphere is widely different, and their training is for far other ends. It is not, however, improper for us occasionally to seek opportunities to make ourselves better understood by our friends, and to present to them our own thoughts on matters of interest to the public as well as to us. I beg of you, then, to bear with me patiently, all untaught as I am in the school of eloquence, while I attempt to speak of and for a profession to which my life is devoted, and of which I never think but with pride and attachment.

I have said that the training of the physician is widely different from that of the lawyer and of the divine. Rarely do its paths run into either of these pursuits, or call to them the public gaze. The student is at once placed in the quiet office. He learns the medical properties of the products of land and sea; he is found in some retired, unknown garret, studying the wonderful organism of man, that he may carry to him who would imprison him the boon of protracted life and restored health; he finds his way to the bedside of the sick, and learns to walk boldly where others fear to tread; spending his nights in some wretched hovel, that he may save the life of an outcast of humanity whom others avoid, going by on the other side; learning that there is to be to him no rest, no consideration of his own good while the lives of others tremble in the balance. He studies with eagerness and care the very first changes which disease produces, invisible to the unaided sight, that he may stay its very inception, and thus avert years of misery; and after all, he learns to receive with equal composure the censure of the public because his skill has failed to save some one whose maladies were beyond all human aid, and their praise, when health returns not because of his abundant knowledge, but because God wills. These are the lessons with which he *commences*, and to which, however careless and indifferent, he cannot be wholly blind.

And he early learns to understand his fellows, to see into their inmost hearts. Our legal friends see very much of the crime, and injustice, and suffering that is in the world; but they see little of their secret springs, and less of those traits which go far to make us respect our race. Our clergymen often meet a parade of virtues inscrutable to the keenest eye, but assumed for their presence only, and covering the very depths of iniquity. But when sudden sickness and threatening death invade a household, there is no time for disguises to be assumed, and the physician sees the deformity which exists. And so, too, the timid Christian, shy even in his pastor's presence, unreservedly with the physician who has his confidence, blazes out unawares into a bright effulgence, rarely seen this side the pearly gates.

These are some of the peculiar influences which from the first are felt more or less by every student of medicine. In their accumulated power they more and more affect him through his whole career, and their influence is seen upon the whole profession. Were it my purpose to speak of the characteristics of medical men, I should follow out these beginning influences into their full growth in the complete practitioner. This, however, I do not now take in hand. And yet I must stop to ask if it is possible for one subjected constantly to these influences to become a cruel, harsh, unbelieving man.

We are often told that we love to see blood run, and to hear the cries of suffering patients, rejoicing in that which causes any one of feeling to turn away with a shudder. The sight of blood is no more grateful to the merest operative surgeon than to any of his pallid friends, and the cries of the suffering patient find in no heart a more ready sympathy than in his. We may speak of an operation as beautiful, even, without expressing any love for what there is horrid about it. For is it not indeed beautiful to see the knife, edged with death if it err but a line, so wisely guided that nerves and arteries and muscles are spared, while the disease is all removed? To see so much wisdom, tact, knowledge, and skill displayed as enables the operator, in an apparently inextricable labyrinth of tissues such as that which complicates the forearm, to take away, as necessity requires, either bone, and still preserve to the patient almost perfect use of his hand, thus restoring him from suffering and misery to happiness and usefulness,—is not this beautiful?

I know that the public are far more captivated by the operations of surgery than we. Although sometimes an unstable mind among us is thrown off his guard by *your* applause, and resorts to the knife as his remedy that he may gain *your* approbation, the approval of his fellow-surgeons is not hastily granted. Their judgment is stern, and usually, alas with human imperfection, not always just. Let me tell you some things which, though no secrets with us, may be unknown to unprofessional friends. The operating surgeon is little more than a skilful mechanic, and many of those things which astonish you by their boldness and apparent dexterity, require but little skill and less knowledge. To amputate a thigh, requires far less of both than the opening of many a little abscess,—requires far less time, and is attended with much less danger; and still, one will be noised abroad and published everywhere; while the other no one, knows. For most operations, moreover, it requires less skill to do them than to say if they are necessary. It requires more skill to restore a fractured limb to its usefulness than to cut it off. The one is, as its name, surgery, implies, "hand work;" the other is often the most difficult *head* work. The true and conservative surgeon unites, in fact, the knowledge of the physician with the skill of the mechanical anatomist. To the former qualifications is his greatest credit due, and their acquirement costs him the greatest labor. Every medical teacher knows very well that students are far more captivated by the operations of the amphitheatre than by greater victories at the bed-side; but that, as years pass by, they learn to give each merit its more proper weight. Be pleased then to remember, that it is to the surgeon when he acts as the physician that the most credit and honor is due, and not when he stands unterrified by the sprinkling of a little blood.

Harshness and heartlessness are sometimes affected by members of the profession, but always to their injury as well as to their discredit; but you will find behind all their "*brusque*" manner a depth of tenderness and feeling more creditable to them and to humanity.

I should like to speak at length of the moral and religious results of those influences which I have mentioned as being from the first exerted upon us. This, however, is at variance with my general purpose; and I have lately had occasion elsewhere to repel an ignorant, careless, and insolent attack upon us.* I, therefore, content myself with again denying what is susceptible of proof, full and convincing, that physicians are, as a body, or from any influences upon them tend to be, materialists, sceptics, or infidels.

The question often occurs, either directly or indirectly, "Is the practice of medicine based on a science, or is it merely the result of empiric observation?" I do not mean to say that this question is often asked in set terms, still a doubt of the fact is every day implied by the mode in which the profession is treated. Every science must be based on facts, and whatever just objection there may be to the Gradgrind style of general education, scientific knowledge must be thus exact or it is useless. The accumulation is no easy task. Multitudes of observers constantly at work, must bring together the results of their knowledge before any progress can be made by means of them. In truth, a very large accumulation of facts is necessary to eliminate the errors with which they are unavoidably attended. In medicine this is especially true, because so many complications attend every fact. Suppose a practitioner has an hundred cases of scarlet fever during an epidemic, and relying upon the use of inunction of oil with cooling draughts, finds only two or three to be fatal; it is not strange that he should report his success, and form the opinion that it is only from the great abuse of remedies that patients die of this fearful disease. Another practitioner similarly situated, meeting an epidemic which he combats with every skill, loses more than one-half of the whole; is it strange that if he should report his cases he would give his opinion that the disease is rarely curable? Now, with both of these men there is a marked error, and this can only be eliminated by the careful collection of a very large number of cases and by diligent comparison of them.

There is another source of error, to be eliminated only by the same diligence and labor. Suppose ten patients suffer from lung-fever, and I give to each one calomel, and all recover; am I not justified in saying that this is *the* remedy for the disease? But suppose I give to another ten doses of cream of tartar, and they all get well; am I not equally justified in saying that they have been cured by the treatment? Only the careful collection of facts can afford the data for the elimination of this error—I mean in those cases, so far as statistics can accomplish any thing. There are some other principles which would enable one properly qualified to judge, to do so with discrimination and accuracy.

The same thing is true in every science, and in all others is readily admitted. In medicine, however, this is reluctantly allowed to be the case; why one hardly knows at first, and yet, after a little reflection, it becomes very apparent.

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* See Am. Med. Monthly, May, 1854.

The truth is, every one thinks he knows a good deal about medicine, and it requires a certain amount of study for him to learn that he knows little or nothing. It is the most natural thing in the world for us to attribute any changes to an alleged remedy previously administered, when in fact it may have been as powerless as the *dolce far niente* pellets which children take so easily.

"Post hoc, ergo propter hoc," is the blinding syllogism; to the fallacy of which, it is not easy to open one's eyes, and which not only greatly disturbs the judgment of the unprofessional public, but also of too many physicians.

Let me say a thing in confidence to my unprofessional audience. Of a medical fact, unless it be the very simplest, you at least, are not qualified to judge. It will be but a very simple thing for a shrewd person entirely to blind you, and to lead you to suppose that you see with your whole eyes. If, with great assurance, I tell you that a man before us is laboring under some disease, the name of which is new or strange to you, can you perceive my error or deceit, even if there be no such disease? Certainly, unless you are well acquainted with medicine, you cannot. I know that there is great skill in reading human nature, as it is called, acquired by those who have much to do with their fellows, and you may read in my manner or my *tout ensemble*, that I am a *humbug*—and, therefore, you may not trust me; still, you cannot tell what is my cheat. I desire, then, to say with the most heartfelt and profound respect to all our non-medical friends, that really they are entirely incapable of judging of ordinary medical facts, and the more they think they know, unless they have been regularly and thoroughly trained in medicine, the more likely they are to be deceived by any and every charlatan. It is from the very fact of this easy and oft-recurring deception that so many are led very seriously to doubt if there be a science of medicine. Unable to distinguish between the gold and the tinsel, and suffering from repeated mistakes, it is hardly to be wondered at that they should come to doubt if there be any genuine metal.

In geology, no one thinks of setting up for an adept till some little study has been expended on it. Nor in astronomy, or even in the more rudimentary algebra or geometry. So, too, it is with all the natural sciences, to mention no others; for who would claim to be a botanist or a conchologist who had not expended some time in the study of these branches. It can, however, be readily understood, that if one entirely unlearned in these should attempt to classify, and analyze, and arrange their objects, or to work out a problem, or to find an asteroid, or to define a trilobite, that he might find much comfort to his pride, mortified by disgraceful blunders, by saying that there is no science in any of these pursuits. Still, his presumption would not be greater than that of many, if not every man, who assumes to sit in judgment on medicine. The voice of the people is not, in this case, the voice of a God.

And then, too, it is a proverb that "doctors disagree," and therefore they cannot be guided by any fixed scientific principles. While I enter my caveat against the fallacy which is apt to lie snugly concealed in our common proverbs, let me ask in what science you will find all its followers harmoniously united. Not in law, certainly; for how often do counsel learnedly quote and wisely argue, backed, as each is, with *all* the authorities, to show that positions, as opposite as light and darkness, are each correct. And still there is not any aërial influence, exerting an invisible but decided effect upon every thing, to confuse their result. Or is it in theology? Behold the long row of inconsistent and incongruous beliefs—Unitarians and Trinitarians, Methodists, Presbyterians, Episcopalians, Baptists, Quakers, Congregationalists, Irvingites, Hicksites, Parkerites—one class worshipping Christ, another denying to him adoration. All starting with the same data of the holy Scriptures, into how great confusion have they run! But there is a science of theology.

Or do the discussions of astronomers on the force of gravity, or their former ignorance of the telescopic asteroids, and the late modifications in the plan of the solar system, or the still remaining ignorance of the orbits of comets or of their nature,—do any or all of these lead us to doubt if there is such a science as astronomy? Why, then, should the disagreement of doctors be alleged as an argument against their science? The facts with which they have to do are much more difficult of translation than those of most sciences. A pain in the back does not always mean disease of the kidneys, nor a pain in the knee hip-complaint; and a pain in the head may have a very remote origin, to trace out which will require great thought and acumen. Is it strange, then, that all should not at once arrive at the same result? I declare to you that you will rarely find a more critical analysis, or more logical examination and reasoning on facts, than is often heard in the consultation room. If opinions should still differ, why is science to suffer for it?

"But if a science, it is very incomplete." It is very true that this cannot claim perfection, any more than any thing else that is human. Its principles, however, are as fixed as those of any of the other natural sciences, and its progress towards perfection, if it has not been so great within the last twenty years, was much earlier commenced, and is carried on with a surer and steadier progress. We have no reason to be ashamed of the incompleteness of our science, so long as all its students do their best to make it more complete and to advance their knowledge. Such progress is in fact being made, and to some notable instances of it allusion might be made, if delicacy did not here forbid. Every medical man knows that in the treatment of those fearful diseases, consumption and cancer, the labors of men on both sides of the Atlantic have enabled us to make great advances. The existence of either of them is not now necessarily a doom to death. Consumption has been cured; and now that it has been demonstrated that cavities already formed in the lungs can be safely injected with medicaments, we cannot but hope the time will come when these fearful maladies shall prove as amenable to treatment as other diseases. Our science is incomplete; but no other advances with more quiet steadiness or by means of greater diligence.

But again, we are told there can be no science in medicine, for it happens to the wisest, the most skilful, the most diligent, to lose their patients. *This*, I doubt not, is the great cause of this unbelief in medical science. But alas, all are under the same penalty, and death has passed on all! Sooner or later the Inexorable overtakes all, and dust goes to dust. It is as great an impossibility for medical men to cure all their patients as it would be for them to preserve to all the bloom of youth. There is no perennial fountain whose waters ward off age—neither is there any panacea which shall ward off death. Neither does death arrive at a certain period; and our science is not bound, in order to fix its claim as such, to show that it preserves all to this age. Very many influences are constantly at work producing effects beyond all control. Is not law a science, because the guilty go free and the innocent are punished? Or is astronomy no science, because its disciples cannot say whether or not there is still another planet revolving in remote distance about the sun? And still, if medicine is no science, because it fails to cure all diseases, these should much more be no sciences. No one, seriously thinking upon the subject, can doubt that this is so, and still a very general feeling exists that the argument is good. In justice to medicine, allowance should also be made for the fact that certain epidemic influences are constantly at work complicating the problem which the practitioner desires to solve; while, from natural deterioration and the rascality of men, the known quantity of the equation, his remedy, fails to accomplish its proper result.

The question is not often bluntly asked, whether or not there is a science of medicine, and still it is perpetually put. It is asked and answered negatively too, by every one who occupies himself with sweet do-nothing pellets, or with herb teas, or with only water as a remedy, or in equal confidence with only inhalations. It is asked and answered when our literary men trust to "soap doctors" and "prophets" of empiricism. It is asked by every funeral train that bears away the bodies of those who die because of their adopting peculiar notions of medicine, or because they gave in their adhesion to some theory concerning which they were unable to judge.

Is it strange that we feel the stinging insult of the question? For what does it, what can it imply, but that we are a set of cheats and knaves, or fools and blockheads? or perhaps it is both combined. I know if we cry out against the wrong done us and done to the community, it is thought to be because our craft is endangered. But it is not so. It is not our craft that is jeoparded, but lives which are alike valuable to us and to the whole community. If there be in our midst a reeking source of pestilence, is it not our duty to cry out against it and to strive to stop those who are heedlessly rushing on it to their own destruction? And shall we keep silence when any charlatanry is carrying off more than the pestilence by means of those things which it does, or by those which it leaves undone? How can we keep silence when, every day, lives valuable not only to families, but to the state or the church, are sacrificed to this ignorance of the true position of medical science? Yes, we are insulted; our science is wronged; the community suffers many a loss, and death gains multitudes of victims. The practice of medicine is based upon a true science, stretching back beyond the age of Hippocrates, than whom no greater genius is boasted by his nation; enlarged and built up by the labors of men in every age, second to none in intellect, industry and integrity; never lagging in its progress behind other sciences, but always in the foremost rank; and, now embracing in its students a body of men who for all desirable qualities fear no comparison with any other class. Is it wise, is it creditable, is it safe to set such a science aside to follow the vagaries of any moon-struck transcendentalist, or wild visionary, or ignorant empiric? It is no mark of superior intelligence or greater cultivation, or remarkable discernment, but of the contrary of all these; and if one's life does not fall a sacrifice to this theorizing, he will be sure, perhaps only too late, to seek assistance from that which is now slighted.

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The term on which we now enter finds us full of courage and vigor for its duties. The science of medicine requires much labor and diligence in its students; and of all portions of the course of instruction the lecture terms are fullest of labor and excitement. It is to these pursuits, to this toil that we welcome those gentlemen who have shown such confidence in us as to make choice of us for their instructors. Be sure that on our part no exertion shall be wanting to make the time spent with us profitable to you; but your coöperation is necessary to secure the result. This we do not doubt we shall receive; and while from your gentlemanly bearing we anticipate nothing but pleasure in these intimate relations, from your mental acquirements and industry, we look only for honor to the college when you shall have become its Alumni.

The Practical Importance and Value of correct Notation to the advancement of Medical Science. By Henry Melville, M. D., Edin.

It is to be much regretted that among medical men, even the best educated and most zealous, there prevails a *fashion*, a love of change in theory, and worse still, in practice. This mutability, and the uncertainty arising from it, constitute sources of a large share of the opprobrium cast upon the profession of medicine, and militate most seriously against the stability and progress of our science. Nor can it be denied that great repugnance exists to the labor requisite for the successful prosecution of the most important part of clinical observation—the compilation of exact statistical records. The evil results arising from these causes would appear to obtain to as great an extent, at least, in this country as in the older portions of the world; and probably exercise a more mischievous influence here than in Europe, where a more wholesome public opinion, both lay and professional, and a higher standard of professional learning, control, in a great measure, the vagaries of the educated visionary and the imposture of the ignorant charlatan. The evils attributable to this lamentable and chameleon-like spirit, assail not only the relative interests of the practitioner, but sap and undermine the integrity of the science. Hence arises, principally, the scepticism which begets distrust of the doctrines, and leads to disobedience of the laws established by the study and discoveries of highly-gifted men through all ages, —which unhinges the mind for that close and accurate observance of facts and details, that comprehensive and harmonious generalization, and the inductive reasoning, so essential to scientific inquiry. It would be premature to invest medicine with the character of an exact science; but the rapid strides which have been made in later days, the vast revelations in every department which have taken place, more particularly through the aid of the microscope and organic chemistry, and the results of the system under consideration, justify the belief that it will one day assume as high a position in the scale of philosophy as that of any other branch of human knowledge.

I will premise, that in the following pages, nothing is offered of a new or original character to those who are already familiar with the subject. I have collected and used the authorities on the subject, and even their language, freely, without reference to individual statement or opinion, except in instances which appeared to require particular comment; my motive being to give an impulse to the good work of careful investigation and complete record, as well as to bring before the notice of the profession generally in this country, a subject of the highest interest, where comparatively little has been done as yet, towards amassing medical facts, but where a large field of inquiry exists, and many causes obtain, which regulate and affect the elements of calculation and multiplythe objects of observation, in a manner, and to a degree, in many respects new and highly important. Those to whom the whole question is novel, may possibly find much to engage them, in perusing the opinions and considering the views of the scientific and successful cultivators of the numerical method, their attention being thus directed to the respective authorities.

It is not essential to my present purpose that I should review the number, origin, and fate of the many theories which have from time to time occupied the attention of medical men, or recount the various remedial agents which have, for a longer or shorter period, enjoyed a reputation for specific qualities. Such statements pertain more to the history of practical medicine. It is sufficient to know that these have been numerous, almost beyond belief, and as opposite in their nature and application, as the circumstances which gave rise to the construction of the first, and the diseases in which the others have been employed. Each in its turn has had a host of warm, and in many instances conscientious, advocates—its powerful and uncompromising opponents. Happily, however, for mankind, there have been some glorious examples in the history of the science, who, keeping aloof from this warfare of zeal, and profiting by the labors of both parties, have been able to cull many germs of truth from the mass of error; to select some elements from the crude materials accumulated, on which to found general laws. I desire to show the manner in which this good has in part been achieved.

In the earliest dawn of medical literature, we trace the rudiments of a system of numerical notation. The efforts then made evidently arose from the observation, that in a certain number of cases of similar character, a given number recovered, while in the remainder the disease proved fatal. It is improbable that the keen observers of that period in the art of medicine, should have witnessed such facts frequently, without making some attempt, however imperfectly, to reduce the result to figures; and, inasmuch as the manual or operative part of medicine was the earliest and perhaps most perfectly cultivated, it became a matter of remark to the older surgeons, that one particular operation failed in the proportion of once or three times out of four, and in another not once in fifty or a hundred times. Such crude and approximative statements seemed to have been considered sufficient for centuries. It is true that a more complete calculation was observable as progressively occurring; still no very comprehensive statistics were collected, nor did the subject command any great amount of attention until a comparatively recent date. Among the earliest and most assiduous cultivators of this branch of investigation was Parent-Duchâtelet, whose principles of examination have been thus characterized by his biographer,

M. Leuret: "Il ecrivait ses observations, et il les comptait. Les mots *souvent*, *quelquefois*, n'entraient jamais dans ses notes; il lui fallait des chiffres, et des chiffres exacts, recueillis un à un, et pouvant se servir mutuellement de contrôle. Rien n'egalait la sévérité de sa methode. Rechercher la vérité était pour lui une seconde religion." The writings of Parent-Duchâtelet on hygienic medicine, and his labors in this department, have established for him a world-wide reputation. But the great father of medical arithmetic, he who first elevated his "méthode numérique" to the rank of a science, was the illustrious LOUIS. He has been followed by many other writers in Britain, on the continent of Europe, and a few in America, whose united labors have contributed to the advancement of the system. In all well-regulated hospitals, and other institutions where the issues of disease and the casualties of life are observed, a faithful record is kept of every specific item of information, which can tend to throw light on the circumstances which govern those issues, and produce those casualties. Nor is it alone in the field of science that the system has been made applicable: speculative utilitarianism has availed itself of its principles; and the successful operation of Life Assurance Companies proves the accuracy of the basis upon which the superstructure has been raised.

Much opposition has been hitherto, and still continues to be, offered to the "méthode numérique." It requires much reflection, and not a little acumen, to enable one to combat the arguments adduced against it; nor is it quite so easy as might be desired, to decide the point at issue by a bare process of reasoning. Conviction must and will arise from the evidence in its favor derived from the accumulation of data, the certainty of these, and the care with which they have been collected. The following resumé of the arguments on both sides of the question, collated from various sources, will enable the reader, I trust, to apprehend the whole extent of the question, and its intrinsic value.

The opponents of this system, starting with the general axiom, that, "in the doctrine of chances, the events which are the subject of analysis, are either similar to each other, or differ by a ratio which admits of calculation," maintain that therefore it is futile to apply the doctrine of chances to medicine, as no two cases are alike, but they are indefinitely and undefinably unlike. Reference is made, in support of this assertion, to the collections of medical facts of ancient and modern writers; *exempla gratii*, the Epidemics of Hippocrates, the Epistles of Morgagni, Stoerck's Ratio Medendi, &c., in which it is asserted that few if any cases are found exactly similar. The evidence of Sydenham is adduced, who taught the dissimilarity of epidemics—a matter of daily observation with all practitioners, who cannot fail to recognize variations not only in successive epidemics, but in the same epidemic, at different periods of its progress, and in different localities.

Celsus is made to contribute the weight of his reputation by his assertion, "Raro quisquam non aliquam partem corporis imbecillam habet;" for, say they, if a difficulty exists, in reducing even those who are ordinarily considered healthy, to any given standard, how is it possible, amid the variety of diseases and their countless modifications, arising from numerous and different causes, to classify them, and to apply rules drawn from generalized disease to an individual case? "A disease is not a simple and uniform entity, but a series of ever-varying phenomena; and, as every exclusive theory is deceptive in the study and analysis of symptoms, so every fixed method is absurd in the practice of physic. Numerical calculations, therefore, which, even in the pure mathematics, sometimes lead to error from the uncertainty of the facts on which they are founded, are open to so many sources of fallacy in medicine, that they are pernicious rather than useful." The limited extent of the *number* of facts observed or collected, and the time through which it is necessary to carry on these observations, are also urged as strong objections. And it must be observed, one writer very tritely remarks, that there is a great difference between the elimination of medical truth by the balanced results of ages, and the hasty theorems which M. Louis deduces from the practice of a few years in a single hospital. The experience of many hospitals and other countries will no doubt often show, eventually, that the practice of ages, and the *unfigured* persuasions of the older physicians, were more correct than tables constructed from a small number of cases.

From evidence like this, and from such reasoning, it is attempted to prove, that in the observation of disease, in the study of its symptoms, and in its treatment, it is essential always to keep in view the doctrine of individuality; in fact, to regard each case as a new and separate problem, it being contended that the most eminent physicians are those who have been most celebrated for the exquisite tact with which they recognize the subtle differences of cases passed over by the common herd of practitioners.

To meet the objection based on the doctrine of probabilities, it is asserted, that even on subjects which are usually brought within the operation of this law, the supposed similarity of events does not always exist; nor does the difference or variation observable in them admit of that strict numerical estimation upon which their value as data should depend, in the construction of the theory. This argument is thus ingeniously illustrated: In throwing a die, and computing the probability of certain results, it is supposed that its six faces are perfectly and exactly equal in linear extent and evenness of superficies—a supposition which can rarely, if ever, be correct, but is most frequently erroneous. Yet, notwithstanding these defects of the materials, and the error of the hypothesis founded on their supposed exactitude, we shall find that the person who, from previous investigation of results, knew that in throwing two dice, deuce-ace was a far more likely cast than double sixes, would have an immense advantage in his play over another who was entirely ignorant of this fact; for the greater superiority of the probability would almost always counterbalance the inequality of the dice. It is, therefore, very possible, that a beginner, unskilled in the doctrine of chances, might suppose each of these throws to be equally probable. The same error obtains with respect to medical facts, and would appear to arise from the circumstance, that in reasoning on a stated occurrence, the entire weight is given to the vague and general impressions produced on the mind by certain peculiarities or characteristics of disease, rather than in computing the events in a large number of cases. This mistake has actually been made by some very distinguished physicians, who appear to have been completely deceived in many instances. It was stated by Corvisart, that dilatation, with thinning of the walls of the heart, was common; yet it is remarkable, that in the work in which this statement appears, only *one* case of this description is given. The same observation has been made by others also; yet in forty-five cases of disease of the heart observed by M. Louis at La Charité, during eight years, no instance of this condition was observed. Læennec made a similar general statement with reference to ulcerations of the trachea, which he asserted to be very common in phthisis, but rare in those who were not the subjects of tubercle. The statistical records of this disease, as compiled by M. Louis, show the reverse to be more correct. Examples might easily be multiplied, but these are sufficient for illustration. The truth is, that the more glaring such errors are, and the more important and startling the phenomena included, the more clearly do they convince us of the entire uselessness of mere approximative results.

The question of the individuality of disease is not the least important or interesting point which arises in the discussion; yet few, it is presumed, will be prepared to maintain the impossibility of nosological classification. If, indeed, every case of disease differed essentially in its characteristics from all others, the science of medicine would in reality be but the momentary observation of diverse and ever-varying phenomena, and the practice of physic, founded on the scientific theorem established by analogical reasoning, would be altogether useless. Fortunately for our science, the study of ages and the labors of learned investigators have succeeded in establishing the fact, that in diseases there are certain well-defined characteristics peculiar to the several forms, which assist and justify us in arranging them into separate groups. Not only can we classify the diseases according to the general features which they present, but we can recognize in each, one or more distinctive peculiarities which invariably denote the existence of one form of disease. It is scarcely necessary, perhaps, to refer to the ease and certainty with which malignant, fatal, or remediable disease can be detected, when, without the ken of naked vision, by the microscope, with the aid of which we can distinguish the cancer-cell, the altered blood-globule, or the crystalline deposit, whose character may be more completely established by chemical science. Nor are the advantages of this mode of numerical investigation confined to the mere arrangement and classification of disease, the improvement of diagnosis, and the correction of prognosis, but it materially assists in enabling us to treat disease by general rules, in spite of the minute differences to be discovered in individual cases. Examples of this will readily suggest themselves to the mind of the reader, as for instance, the effects of quinine in ague, colchicum in gout, and sulphur in itch. The remarkable power exercised by these remedies over the diseases enumerated, in which they certainly attain nearly all the requirements of specifics, is displayed in cases which differ very materially from each other. It is undeniable that, in these diseases, instances will occur in which, from some peculiar complications, either constitutional or pathological, these remedies would not only be inadmissible and useless, but even positively injurious; as in the case of colchicum in gout, it would be most improper to administer this drug when there existed a highly inflamed or congested condition of the alimentary canal. But such exception rather tends to show the extreme danger of treating disease empirically, and the necessity which exists for using the greatest discrimination and judgment in the investigation of it and the formation of our diagnosis, and cannot be fairly used to display any fallacy in the numerical method.

That the system is open to abuse and error, like every other plan of human arrangement, cannot rationally be disputed; but those who zealously and judiciously prosecute this mode of investigation, however startling and comprehensive the results they obtain may be, are not justified in confining themselves to general rules and their manifestations. The exceptions become the object of careful study and examination, and form the groundwork of separate problems, to be worked out with the necessary elements, and by sound reasoning and great reflection. Nor is it by limiting attention to the mere combination of units, by numerical expression simply, that the great and fundamental principles of the science can be eliminated; the whole mind must be given energetically to the details of facts—not alone to note the number of cases occurring of one generic form of disease in a certain locality, and the casualties and results following its prevalence—but every circumstance must be strictly considered which is calculated to afford information, not only on the pathogenesis, progress, duration, and termination of epidemic, endemic, and sporadic diseases, but also on the influences which have been observed to govern their treatment. In such an investigation, the principal points to be regarded are, climate; constitution, natural and hereditary, as well as modified by acquired taint during life; habits; complication of diseases; and peculiar idiosyncrasies. So wide a field of observation necessarily calls for a subdivision of labor for its proper cultivation; and hence we find the tendency manifested by physicians to adopt one particular disease for study and remark.

It must be admitted, that in conducting the calculations connected with this department of medical science, many mistakes occur from a variety of causes, but principally from omitting some of the elements of the problem. I shall proceed to discuss, in another paper, the sources of error or fallacy in the numerical method, and follow this up by giving some of the most prominent conclusions which have been arrived at by its aid.

Final Report of the Mott Street Cholera Hospital, under the superintendence of D. S. Conant, M. D., Demonstrator of Anatomy in New York Medical College.

This Hospital was opened on the 25th of July, and the first patient received on the morning of the 26th. It was closed October 23d, the remaining convalescent patients being sent to Ward's Island and Bellevue hospital.

There have been treated in the Hospital, in all, three hundred and twenty-nine patients; and with what success may be seen by the following statistical report.

Of the three hundred and twenty-nine patients received at the Hospital, the nativities and ages were as follows: From—

Ireland, ...	147,	of whom	81 died.
Germany, ...	87,	"	30 "
United States, ...	*45,	"	24 "
England, ...	17,	"	6 "
Holland, ...	9,	"	2 "
France, ...	7,	"	3 "
Scotland, ...	4,	"	3 "
Portugal, ...	3,	"	2 "
Newfoundland, ...	2,	"	1 "
Switzerland, ...	2,	"	1 "
Canada, ...	2,	"	1 "
Spain, ...	1,	"	0 "
Sweden, ...	1,	"	0 "
Belgium, ...	1,	"	0 "
Poland, ...	1,	"	0 "
	329		154

* Of these, 15 were children of foreign parentage.

As to the ages of those received; there were,—

Between 1 and 10 years, . .	25, of whom	13 died.
" 10 " 20 " . .	32, "	14 "
" 20 " 30 " . .	121, "	50 "
" 30 " 40 " . .	66, "	28 "
" 40 " 50 " . .	44, "	23 "
" 50 " 60 " . .	30, "	16 "
" 60 " 70 " . .	10, "	9 "
70 " . .	1, "	1 "
	329	154

It is well known to every intelligent physician that the mere figures of an epidemic hospital report are no criterion of the success of practice in that hospital, without a fair statement of the condition of the patients when admitted. The condition of those admitted in Mott Street Hospital was as follows:—

Moribund, . . .	44, of whom	44 died.	
Perfect collapse, . .	64, "	54 "	10 recovered.
Incipient collapse, . .	66, "	40 "	26 "
Incipient cholera, .	155, "	6 "	139 "
Of old chronic diseases awakened by the attacks, . . .		10 "	
	329	154	175

Of those who died having recovered from the cholera attack,—

2 died of delirium tremens.
1 " pleurisy, with effusion.
1 " " with chronic peritonitis.
1 " softening of crura cerebri.
1 " consecutive pneumonia.
1 " consumption.
1 " marasmus.
1 " old mesenteric abscess, with chronic disease of ilium.
1 " ovarian abscess opening into rectum, and chronic dysentery.

One of those received in incipient collapse became frightened after having almost entirely recovered from the first attack, and died in five hours. A patient was brought in moribund, and placed upon the next bed. Very soon it was noticed that the eyes of the first patient began to look sunken, and she was immediately removed to a distant part of the room; but other patients were being brought into the ward; and though she was a fine, well-developed girl, of nineteen years, she rapidly sunk and died.

Two of those who were perfectly collapsed had nearly recovered also, when one of them became frightened, and medicine seemed to have no effect at all; and she died. In the other, reaction was established the second time; but she went down the third time, and died.

It will be seen by the preceding tables, that a large proportion of the patients have been received late in the disease; and this can be accounted for in several ways. In the first place, physicians, in very many instances, will never advise their patients to go to the hospital so long as they have a cent of money to pay a fee, or there is the least prospect of their recovery. For, say they, "I have sent many patients to the hospital, but they all die; and I have not lost a single patient, either in '49 or this year, when I could be paid for giving them proper attention." One reason why all their patients die at the hospital is, that they refuse to let them go until they are moribund; and the reason they never lose one is, that they refuse to attend them when they find they are going to die. They consider the hospital the only fit place for a patient to die of cholera.

Another reason why patients dislike to go to the hospital is from what they see in the public prints. The Sunday Dispatch, for instance, had an article, Sept. 10th, which bore upon its face evidence of entire ignorance of the hospital, either as regards treatment, condition, or success. In fact, such articles have had a direct tendency to bring about the very result they so much deplore. If physicians had been more prompt in sending patients to the hospital; if the public prints, instead of crying down the hospitals as pest-houses, had spoken of them as public charities (which every intelligent person who understands the object and result of such institutions would consider them to be), we believe the result would have been still more favorable than is seen above. For we do feel that we have softened the pillow of death for more than one hundred patients of other physicians, while we have tried to make our own see that no labor, no skill, in fact nothing at our command, has been wanting to restore them to health, or to make them comfortable as they went down to the chambers of death.

The treatment at this hospital has been divided with the different stages of the disease, and varied according to the constitution and diathesis of the patients. In the incipient stage, the acetate of lead and opium have been used principally; in the active state, calomel, opium, and creasote; in the various stages of collapse, calomel, rhubarb, and capsicum, with beef-tea, brandy, etc.; in the consecutive stage, diuretics, diaphoretics, stimulants, and tonics. In all cases, and in all conditions, *hot* drinks alone were used, and heat externally applied, together with *absolute rest*.

The details of treatment, the results of over one hundred postmortem examinations,—during which we feel that important discoveries have been made, which will assist in unraveling the mysteries of this fearful disease,—will all be submitted to the consideration of the profession at large, in some future number of the MONTHLY.

It can only be added here, that the pituitary body at the base of the brain was found diseased in every case examined; although the principal manifestations of the disease were found in the mucous membrane of the stomach and duodenum.

An unusual case of Abscess of the Rectum succeeding child-birth. Reported by AUGUSTUS K. GARDNER, A. M., M. D.; Physician to Northern Dispensary; Member of New York Therapeutical Soc., Nat. Med Association., Mass. Med. Soc., etc.

(Read to the New York Academy of Medicine.)

July 18th, 1854, I was called to Mrs. J——, 39 Fifth st., æt. 33, in labor with her fourth child—now at full time. During her gestation, she had been troubled by sour stomach and constipation; had not been in usual health for the year previous; suffering under dyspeptic troubles with some leucorrhœa. During her previous confinements (with children weighing about 11 lbs.)—she took chloroform—she had an eversion of the rectum, followed subsequently by hæmorrhoids which were very painful, but which were relieved by fomentations, leeches, &c. At intervals subsequent to her first confinement, she was troubled, when looseness of the bowels occurred, with this prolapsus and hæmorrhoids, particularly during her gestations; which were relieved by applications of ice and other remedies.

For several days Mrs. J. had premonitions of approaching labor, which, however, did not assume an active form until the morning of the 18th, when I was called, at 8½, A. M. On examination the os was found almost fully dilated and dilatable, the membranes ruptured and a profuse show. The pains speedily grew very strong, and chloroform was administered in small quantities—sufficient to blunt the edge of the pain, but without stupefying the patient. Still, however, the frequency of the pains, as well as their intensity, was sensibly diminished, and the completion of the labor delayed. Nevertheless, at 9½ o'clock, she was safely delivered of a female child weighing 9¾ lbs.

As the head passed the vulva, the rectum was forced out, but was restored to its natural position, without difficulty, immediately after.

Before the labor, the bowels had been cleared by ol. ricini, which had several operations.

For several days the patient did very well, till her old affliction, the hæmorrhoids, commenced to trouble her. On the right side there was one of the size of a half-egg, and opposite to this one or two small ones. The pain from them was relieved by suppositories of a grain of opium and two grains of camphor, or by a teaspoonful of tinc. op. camph. as was required. Mrs. J. was always very unpleasantly affected by opium; and the camphorated tincture was the only form in which she was able to take this drug, without cephalalgia and gastric derangement. The opium suppository with camphor had no marked unpleasant effect. Leeches were applied, and cataplasmata, which in a few days, so restored the parts to their natural state, that she was able to sit up. It should here be especially noted, that these hæmorrhoids never softened or contained pus, but were gradually absorbed and slowly melted away.

On the 10th day Mrs. J. sat up, and from that time did very well, (having an abundance of milk for the child; good appetite, principally satisfied by Graham crackers; lochia nearly ceased), until August 1st. when I was again called.

I found that, some day or so previously, she had eaten the greater portion of a pint basket of the Lawton, or seedless, blackberries, which had been followed by a diarrhœa, persistent in its character, accompanied with tenesmus. To arrest the frequent passages as well as to insure the evacuation of the contents of the bowels which might remain, I prescribed as follows:

℞. Hydrg. cum cretâ,	gra. xii.
Pulv. Opii,	" iii.
Gum. Camphoræ,	" xii.

M., ft. pulv. No. vi.; quâque horâ quartâ, una.

This acted apparently beneficially, and for several days she seemed almost recovered from this attack, under the influence of a chalk mixture, with laudanum. On the 6th, on account of more than usual tenesmus, she was advised to resume the use of the suppositories, which she did after every passage. Under their influence the passages assumed a natural character, the offensive smell disappeared, and the fæces were shaped, and so firm as to give pain in their exit; still the straining down continued. To overcome these symptoms, on the eve of the 9th I ordered as follows:

℞. Morphiæ Sulph. gr. $\frac{1}{3}$
Hydrarg. sub Mur. gr. i.
M., ft. pil. una.

This operated the next day three times copiously, bilious; and a suppository was then administered. The discharges from this time were more frequent,—five or six in the twenty-four hours, dysenteric, accompanied with slight traces of blood.

About this time Mrs. J. complained of great difficulty of micturition; but by various methods, such as hearing the sound of water flowing, she succeeded in evacuating the bladder. Great attention was paid to her diet, and a variety of simples sustained her strength, without too much taxing the powers of digestion.

On the 12th, I saw her in the morning; the frequency of the passages was restrained by suppositories.

℞. Pulv. Opii,
Acid. Tannic,
Gum Camphor, āā. gr. ii.
Butr. Cacao, q. s.—M.
One after every movement.

To restrain the constant tenesmus, unusual in simple dysentery, not unfrequently two or three were given, or sulph. morph. by mouth, gr. ¼, *pro re nata*, without awaiting a dejection.

On the 12th I was myself taken with dysentery, and kept my bed until the 16th, during which time Mrs. J. was under the prudent care of my accomplished friend, Dr. Henry Weeks Brown. On visiting her in the evening, Dr. B. found her pulse, hitherto about 90, increased to 120; great pain and almost inability in urinating, and the passages from the bowels apparently unrestrained by the suppositories, and consisting principally of blood, in considerable quantities.

Dr. B. evacuated the bladder with a catheter (and this was done twice or more times every day, subsequently), ordered injections of ice-water—which, for a time, controlled the discharges—after every passage; and a consultation was appointed for the next morning, with Dr. Willard Parker.

Previous to this, we had a conversation upon the peculiar features of the case. The probability of some local lesion was suggested, and various plans for its treatment were proposed by Dr. B., such as nitric-acid applications, &c.

The next morning the blood was found to flow hæmorrhagically from the anus, without any fæcal matter or effort at dejection; and on examination a sloughing ulcer was easily found, admitting the finger to a considerable depth, immediately within the sphincter, on the left side, and opposite to the locality of the large hæmorrhoid, before spoken of. Dr. Parker then proceeded to pass in a sponge, saturated with alum-water, which arrested the hæmorrhage; administered brandy and morphine, q. s. The case now appeared a plain one; the indications were to stop the hæmorrhage, keep up the strength, and trust to time and the recuperative processes of nature. Subsequent slight attacks of hæmorrhage were easily arrested. I saw her on the 16th, with Drs. W. Parker and Brown. The alum sponge was no longer necessary; food was advised, as could be borne, and opium locally, to quiet irritability; the bowel to be washed out with a syringe, twice a day.

I found her much reduced, pulse 120, appetite fickle. The ulcer appeared to be of the size and depth of half a hen's egg, but little tender, and the contents fetid.

17th. Saw her several times; in the morning with Dr. Brown, and found her improving in strength and appetite. All symptoms favorable.

18th. While engaged in washing out the bowel, Mrs. J. was taken with a slight chill, followed by no sweat or fever, which was attributed to the exposure from uncovering the person, and perhaps from the water being too cold. Apparently improving.

19th. Bears food well, and apparently improving. The chill not repeated. Supposed to have occurred from exposure to draught while administering injection. The following was given:

℞. Tinct. Cinchon. Comp. ℥ ij.
Sulph. Quinine, ℈ iss.
Syrup, ℥ ij.—M.
ʒ i quâque horâ quartâ.

From this date to the 29th she appeared very much the same. The second day after taking the quinine, she complained of symptoms indicating that the quinine was affecting the head, and it was finally discontinued. For several days the frequency of the doses had been diminished, as it was supposed to diminish the appetite, or at least to render the stomach irritable. Gradually the stomach lost its tone, and a great variety of articles were tried to be eaten, but which soon palled; eructations and sour vomitings supervened. The nitro-muriatic acid, in five-drop doses, *ter in die*, at first appeared to relieve this state, but was soon stopped as inefficient. Constant nausea and frequent vomiting commenced; and supposing it might arise from a wearied stomach, its rest was advised, and a tablespoonful of arrow-root, made with water, every half-hour, and soda-water in small quantities as drink, were advised; and for relief

℞ Hydrocyanic Acid, gtt. xl.
Aqua,
Syrup, āā. f. ℥ i.—M.

was advised—a teaspoonful every three or four hours.

Slight chills, without rigor or succeeding sweats, were now observed at irregular intervals. Phlebitis was suspected, but no evidences observed; no pain over the liver.

On the 29th, the patient gradually failing and from no apparent cause, Dr. Parker was again called in consultation. The obstinate nausea, and the consequent loss of strength and great emaciation, was the only serious symptom. The irregular chills were thought to be miasmatic, from inability to ascribe them to any other cause.

After much deliberation, the state of the stomach was, with some considerable reluctance, ascribed to the constant use of opiates. Mrs. J. was always unusually sensitive to all forms of opium; nausea, &c., always accompanying its use. For many weeks she had now been in its constant use. The abscess had not been recently examined, from an unwillingness to disturb the healing processes of nature; particularly as no good result was expected to be gained by this unpleasant operation. The opium suppository was generally used after every passage, to quiet any irritation, and to thus facilitate the cicatrization of the ulcer. It was supposed that the opium was causing the nervous irritation of the stomach. It was omitted for a day or two, and a five-grain bolus of hyoscyamus substituted, as might be necessary. During this whole period, the pulse varied little from 108 per minute.

Aug. 31st. The lady had now taken scarcely a mouthful of any nutritious matter for more than a week. The bowels irritable, with two or three fæcal movements during the day, and the nausea incessant. Hoffman's Anodyne was recommended.

Sept. 1; 1, A. M. The anodyne inefficient. Jactitation. Pulse 120. Nausea increased with straining to vomit. Gave chloroform by inhalation, with great relief. Pulse much fuller and less frequent, nausea relieved entirely, except when moving, some still remaining. Senses but slightly affected, and constantly expressing the benefit derived from the anæsthetic, Sulph. ether was tried, but the effect was far from equalling that from the chloroform, and unpleasant in its taste and sensation to the patient.

This inhalation was kept up almost incessantly, until about 9 o'clock, when by inadvertence she was allowed, while asleep, to come out from its influence, and strong vomiting commenced. It was re-administered, but the vomiting had again caused several movements of the bowels slightly marked with blood.

At 11, A. M., I again visited her with Dr. Parker; the hæmorrhage had again commenced to an alarming extent, and an injection of alum water had not arrested it. Pulse very feeble, 180 per minute, respiration rapid; hæmorrhage constant. The matters vomited were grumous, and like decomposed blood.

On examination for the source of the hæmorrhage, the abscess was found to be not only not healed, but apparently larger than before. The sponge saturated with alum was inserted, and a tampon externally to rectum; but in vain, the hæmorrhage flowed on each side in a constant stream.

It was but too apparent that life was fast ebbing away. The chloroform was withdrawn, and brandy administered. She was informed of her situation; and, with great composure and with perfect consciousness, parted with her friends, and commended her soul to her God. Great pain then coming on in the chest, from local congestion probably, she called again for the chloroform, and at 1 o'clock passed from time into eternity.

There are several features in this very remarkable case, worthy of consideration. The peculiarity of the lesion in its manifestations, and its coincidence with other affections; its uncertain diagnosis and variable prognosis; the treatment called for and the certainty, evinced by the autopsy, that cure was not within the limits of medical skill; and finally the effects of the various remedies employed, particularly opium and chloroform, in this and other forms of diseases. I shall not at present enter upon the discussion of these points, but shall defer to some future time this consideration, and particularly that of the use of chloroform in parturition, and as an alleviator of various forms of spasm.

The immediate cause of death in the case presented, was hæmorrhage from the hæmorrhoidal veins exposed by the sloughing abscess of the rectum. The origin of this abscess is less easily told.

In the prolapsus during the labor, the rectum did not remain external three minutes before it was carefully returned. The hæmorrhoids did not suppurate, but gradually softened, became absorbed and vanished. More than this, the abscess was opposite the principal and only hæmorrhoid of any note. The patient was convalescing from the effects of the labor and the hæmorrhoids, when the dysenteric symptoms commenced. There was at no time any suspicions that an abscess was forming, neither any indications of its rupture, or signs of any discharge of pus observed. Could this have originated as a dysenteric ulcer, gradually deepening as it sloughed, until it exposed the vessels and took the form we observed?

I find no account of a similar form of disease in any of the numerous works upon the rectum, several of which have recently issued from the English press, by writers of high reputation and known ability.

The Salts of Manganese. By E. H. Davis, M. D., Professor of Materia Medica, etc.

It is quite curious to observe how rapidly some remedies have attained a wide-spread reputation, and, after a short-lived popularity, have lost it as soon. But such has not been the case with the various Salts of Manganese; for although some of them, at least, possess intrinsic value, they have been very tardily adopted by the profession.

It was observed many years since, that the workmen in the manganese mines of Macon, in France, were uniformly cured of scabies and other cutaneous affections during their stay at the works. This led, at the time, to the use of the oxide for such cases elsewhere.

But we do not purpose in this article to chronicle the rise and progress of this metal as a medicinal agent, but merely to call the attention of the profession to some of its preparations. Having recommended for years the use of the principal salts of manganese, such as the carbonate, sulphate, malate, tartrate, phosphate, and iodide, we were much surprised on a recent occasion, when sending a prescription containing the phosphate of manganese, to learn that the article could not be found, although some half-dozen of the best shops in the city were visited. The patient, of course, was compelled to wait until the salt was produced in the laboratory.

The French have paid special attention to this remedy within a few years, in consequence of the discovery, by M. Millon, of the presence of this metal in the blood.* M. Hannon has experimented on himself and others, proving conclusively the power of manganese to improve the color of anæmic patients, as iron has long been known to do. The result has been the development of important therapeutic resources, fully equal, and in some respects superior, to those of the ferruginous compounds so long familiar to the profession.

It is stated among the prominent advantages of manganese over iron, that its preparations may be combined with all the vegetable tonics and astringents without risk of chemical incompatibility.

The *carbonate* has often been prescribed, but is considered too bulky—four to ten pills, of four grains each, being necessary daily for chlorotic patients.

Honey or syrup should be used in the preparation of these pills, as saccharine matter tends to prevent further oxidation. Mitchell recommends also the addition of fresh charcoal for the same purpose.

The *malate* is easily procured by acting upon the carbonate with malic acid. It is a desirable preparation, and can be given in the form of pill, in quantity of from two to five grains at a dose. A syrup, which is generally the best form of exhibition, may be made thus:—

℞. Mal. Mangan. ℥ ss.
Ess. Limon. ʒ i.
Syrup Simp. ℥ viii.
Dose, teaspoonful three or four times a day.

The *tartrate* is made just as the malate, merely substituting tartaric for malic acid, and may be dispensed in like manner. A highly tonic syrup can be formed with it as follows:—

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* Transactions of the *Acadèmie des Sciences*, of Paris.

℞. Syrup Tolu. ℥ vii.
Ext. Rhatan.
Tart. Mang. āā. ʒ i.

Mix well. Dose, teaspoonful four or five times daily.

Phosphate of Manganese is produced by adding a solution of phosphate of soda to a solution of sulphate of manganese. After the precipitate is dried, pills may be made, in the proportion of a drachm and half combined with half a drachm of Peruvian bark, and sufficient syrup of catechu or other syrup to make a mass. Pills to be divided into four grains each. A syrup is thus prepared :—

℞ Phosph. Mangan. ʒ ss.
Syrup Tolu. ℥ iij.
Syrup Cinchon. ℥ v.
Ess. Limon. ʒ iss.
Pulv. G. Arab. ℈ i.

Mix quickly—keep in a well-closed bottle. Dose, teaspoonful.

The *iodide* may be administered in form of pill, or in combination with syrup of sarsaparilla.

These preparations have been highly recommended for the anæmic state resulting from tubercular disease.*

Hannon proposes to combine the two metals, where iron alone is not successful. It is also suggested to use first the insoluble preparations—as the carbonate, phosphate, and oxide—and afterwards the more soluble, as the tartrate, malate, &c.

The salts of manganese are more easily assimilated than those of iron, and, consequently, a shorter period is required for their exhibition. They are considered valuable in the depraved state of the blood consequent upon intermittent fever, and it is thought their use will prevent a return of the attacks. Enlargement of the spleen is speedily reduced by the iodide with syrup of cinchona.

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* Braithwaite's Retrospect, part xx.

PART II.—REVIEWS AND BIBLIOGRAPHY.

The Science and Art of Surgery, being a Treatise on Surgical Injuries, Diseases, and Operations. By JOHN ERICHSEN, Professor of Surgery in University College, &c. Edited by JOHN H. BRINTON, M. D. Illustrated by three hundred engravings on wood: large 8vo., pp. 900. Blanchard & Lea, Philadelphia, 1854.

WITH becoming modesty, Dr. Brinton tells us in his preface to this American edition of the "latest work out," that he has found "little to add or correct, except those views and operations which belong essentially to American surgery." It is always a nice task to supply the deficiencies or remedy the mistakes of another author; but when it is well done, he who so performs it, is entitled to a fair share of praise. Dr. Brinton has, with much judgment and as concisely as possible, noticed the several ellipses with respect to the opinions and practice of American surgeons, and in so far has made the edition before us more complete than it otherwise would have been. It is to be presumed that he did not feel himself called upon to criticise, or meet by counter statements, any of Mr. Erichsen's observations on those points of American surgery which he has included in his work; for there are one or more instances in which, as will be discovered in the course of our remarks, he might have answered the ex-cathedra judgments of the English author. It may be a matter of opinion in how far the literary or scientific reputation of a collaborating editor, conducting a foreign work through our domestic press, is involved in that of the author to whose production he stands more or less in the relation of a sponsor or guarantee; it appears to us, however, that if in this capacity, he makes any additions or comments to the work at all he renders himself accountable for *all* the opinions therein contained, unless in the same manner they are distinguished, and controverted or repudiated. We consider this to be a point of some importance, in connection with the system now so common, in reprinting a foreign work, of giving it the prestige of an American name as editor. If this addition is necessary to carry weight with the American profession, and thus answer a good end for the bookseller, the medical man who lends his name to the introduction, should exercise all the privileges he can, to advocate on the one hand, or to disavow on the other, the statements contained in the text he is revising.

It is fortunate for us that Dr. Brinton's reputation cannot be affected by any discussion of the question we have thus briefly mooted; but viewing this as a very material point in the matter of book craft, we hope that some ethical law may be brought to bear upon it practically and efficiently hereafter. The work is placed before the profession in its American dress, in a most satisfactory manner, and is, in many respects, as useful a manual as any now offered to the student.

The work contains the substance of Mr. Erichsen's lectures delivered at the School where Liston taught. Mr. Erichsen is rising rapidly in public favor and the estimation of the profession in his own country. He is a neat, quiet, and successful operator, a careful diagnostician, a good scholar, and a most assiduous student; with these qualifications we should expect to find him enjoying the reputation of a popular lecturer and elegant writer. We like the style and title of his work, "The Science and the Art," there is something suggestive in it. It leads us to anticipate a greater generalization, a more comprehensive and philosophical view of his subject, than that which has been generally hitherto adopted, viz., "The Principles and Practice." When we compare the book before us with South's Edition of Chelius, we feel that there is something which at once convinces us, even although we may be unable satisfactorily to explain what this something is, that Mr. Erichsen falls short of the realization of that ambitious scope proposed by his title. That, as good, clear, and useful lectures, his pages deserve a high encomium, we frankly admit; but they certainly do not impress one with the high classical and philosophical character, or exact scientific authority, which we would hope and expect to find in a book professedly written on the science and art of surgery; by which we understand the abstract philosophy and fundamental laws of that department of medical science which has for its peculiar province, the prevention and cure of those structural lesions produced by external and mechanical causes, or internal sources depending principally upon perverted nutrition.

We regret that we cannot afford the space necessary to follow Mr. Erichsen through many of what we consider as his peculiar views on several points of theory and practice, but we cannot permit to pass unnoticed the following curious and extraordinarily positive passage in connection with a great fact in American practice; a passage which we think *we* should have commented on in brackets, had we undertaken the office of editing this work. At page 671, under the heading "Aphonia—Chronic Laryngitis," we find the following words:—

> The *treatment* of these various chronic inflammations of the mucous membrane of the pharynx and larynx requires to be conducted by the topical application of a solution of the nitrate of silver, which may almost be looked upon as a specific in these diseases. The great value of topical medication in these affections has been principally pointed out by American surgeons, amongst whom the names of Drs. Horace Green and J. Warren, may especially be mentioned. The nitrate of silver may be applied in various ways, on sponges, in powder, or by injection. The mode of application that is the simplest and most effectual, consists in depressing the

tongue with a proper spatula, and then passing a throat-sponge, consisting of a small piece of this material firmly attached to a curved whalebone stick [here a diagram of the probang is given], and saturated with a solution of nitrate of silver, to the parts that are diseased, so that the liquid may be applied to the whole of the affected surfaces. This solution should vary in strength from half a drachm to a drachm of the salt to an ounce of distilled water; and, most commonly, the latter strength will be most useful. This plan of treatment has been much practised of late years in this country, and with considerable success in a large number of cases.

Some of its advocates, however, not content with curing in this way disease that is visibly seated in the throat, pretend that the morbid action extends down the trachea into the bronchi, and that it is necessary to follow it in these situations. They accordingly speak of sponging and mopping out those parts of the air tube, and of applying the caustic solution to them, as if this were a proceeding that could be adopted with as little difficulty as passing the sponge into the nares. *I cannot believe, however, that this practice, though commonly spoken about and professedly employed, is ever in reality carried out.* Any one acquainted with the physiology of the larynx knows how acutely sensitive it is, and how in its normal state it resists the introduction of any foreign body by the most violently spasmodic fits of coughing; and any surgeon who has seen the effects resulting from the fair and complete inhalation of a drop or two of a solution of nitrate of silver in a morbid and irritable condition of this tube, *must feel sure that no sponge saturated with a solution of this caustic could ever have been thrust down between and beyond the vocal chords.* But not only does physiology *and ordinary experience* tend to disprove the possibility of such a procedure, but *repeated experiments*, both on the living and on dead subjects, HAVE LED ME TO THE CONCLUSION THAT IT IS UTTERLY IMPOSSIBLE to pass a whalebone, whether curved or straight, armed with a sponge, beyond or even between the true vocal chords. *I have frequently* endeavored to do this in cases of cut throat, in which, the air tube having been laid open, the passage of the sponge could readily have been observed, and in which the facility of doing so would have been greatly increased by the larynx being no longer subservient to respiration; *but in no one instance have I succeeded* in passing the sponge so as to make it appear at the external wound. In the dead-house, also, I have repeatedly endeavored to pass the curved whalebone tipped with sponge into the trachea, but have never yet succeeded in doing so by employing those manipulations which could alone be practised on the living subject, or indeed by any ordinary degree of force. *From the repeated observations I have made on this point, I have no hesitation in expressing my conviction that the sponge has* NEVER BEEN PASSED IN THE LIVING SUBJECT BEYOND THE TRUE VOCAL CORDS; though I believe it is possible that in some instances, and with the requisite dexterity, it may be for a moment introduced between the lips of the glottis so as to apply the solution freely to those parts, not however without producing the most intense and spasmodically suffocating cough. I have little doubt that in those cases in which the sponge has been supposed to have been passed between and beyond the vocal cords, and in which the operator speaks of having felt the constriction exercised by these in its entry and exit, it has in reality not entered the larynx at all, but has been passed behind this tube into the œsophagus, the constriction being produced by its passage beyond the projection of the thyroid and cricoid cartilages, and that the caustic solution has been applied to the mucous membrane in this situation, instead of to that lining the interior of the air passages!

We have used the prerogative of a reviewer, to italicize and otherwise emphasize those parts of the foregoing quotation to which we wish the reader's attention specially directed; although the whole passage is sufficiently amusing and interesting to attract notice.

Mr. Erichsen admits the rationale of the topical treatment with nitrate of silver, grants its efficacy, and sanctions its employment. We ought to thank him, we presume, for this admission; it is something gained for the credit of American science. But that a surgeon of his reputation and apparent information should, at the present day, and to a profession familiar with the practice, deny the possibility of passing the armed probang beyond the vocal cords, is truly ludicrous; we feel disposed to characterize the assertion still more harshly, and consider it as calculated to engender a feeling of distrust in all positive statements made by him. We really do not wish to affirm, that Mr. Erichsen's attempts to introduce the probang into the larynx of the living subject must have been bungling and mismanaged, for we can hardly suppose that so practised an operator, and one so neat in his manipulation, would do any thing either awkwardly or wrongly; and therefore we are at a loss to account for his want of success, unless it should have arisen from an entire misapprehension of the directions given for the performance of the operation, by those who proposed it or are in the daily habit of accomplishing it. Still less are we inclined to attribute his failure to the want of correct anatomical knowledge, or a sufficient acquaintance with the physiology of the region implicated. Perhaps he did not succeed because he did not believe he could. Like the faithless Thomas, he still requires tangible evidence to convince him. If so, let him pay Dr. Bennett, of Edinburgh, a visit, and witness his success; or let his next summer's trip of recreation be across the Atlantic to New York, and he will have the same opportunity of testing the reality of the thing which was lately enjoyed by the illustrious Marshall Hall, previously also a sceptic, who in Dr. Green's operating-room satisfied himself, visually and manually, that—there was no mistake.

But Mr. Erichsen evidently requires some information on the subject: we will endeavor to supply him with it.

"Ordinary experience," far from disproving, daily confirms the practicability and utility of this mode of practice, in the hands of numbers on this side the Atlantic, and not a few on the other. It is employed in many other affections of the laryngeal mucous membrane, besides "chronic inflammations." It has proved most efficacious in croup, in both its varieties, and for its cure has been resorted to in the case of infants of a very tender age. Our journals frequently bear testimony to this fact.* In pertussis; in polypus; nor is it altogether inutile in some forms of epilepsy.

In 1849, Dr. Green demonstrated the feasibility of the proceeding, in the hospitals of London and Edinburgh, and to some members of the profession in Paris.

Dr. Bennett tells us, in his recent work on tuberculosis, that he has succeeded in accomplishing the introduction of the instrument without the aid of the spatula—which frequently occasions more annoyance to the patient by its pressure on the root of the tongue, than the application of the caustic solution—by educating the patient how to hold the tongue and otherwise regulate the position of the parts.

It is a well known and frequently observed phenomenon by those in the habit of employing this treatment, that it is principally in its "normal state" that the larynx is so very intolerant, at least the uneducated larynx, for after three or four trials, healthy larynges may be entered without any unpleasant results. In the diseased condition it is decidedly more tolerant, a fact within the knowledge of every one. Witness the fact, that in disease of the larynx, patients are constantly annoyed by the passage of portions of food or other foreign bodies into the trachea—a phenomenon evidently depending upon the loss of sensibility of the opening and upper part of tube. The impunity with which the application is made in the case of infants laboring under croup is very remarkable. The suffocative cough and respiration in adults is, in a very large proportion of cases, more distressing to the spectator than to the patient, as we have frequently heard them confess; the chief difficulty and annoyance to them apparently arising not from any impossibility of inspiration, which is commonly prolonged and sometimes sonorous, but of perfect expiration and the inability to articulate.

Many men *have repeatedly passed* the probang beyond the vocal cords; and many who have enjoyed the opportunity of seeing Dr. Green operate, *are convinced* that by expert manipulation, *he can* and REALLY DOES PASS THE INSTRUMENT, INTO EITHER RIGHT OR LEFT BRONCHUS, at will. The proof of this latter assertion rests on the following circumstances:—

1st. The length of the instrument employed, and the extent to which it is made to disappear.

2nd. The relative position of the extremity of the instrument, retained between the finger and thumb, in the mouth.

3d. The sensations of the patient; who will usually most intelligently indicate the position of the sponge, without premonition of the intended direction.

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* See American Medical Monthly, No. 6, p. 401; New York Journal of Medicine, No. lxv., p. 213; Boston Medical and Surgical Journal, Vol. 51.

It would be premature in us to refer to proof, resulting from experiment, which we know exists, as to the fact of the presence of the probang and other instruments in the trachea; information on this point will, no doubt, reach the public eye in due season.

It is important for the introduction of the probang, that respiration should be tranquilly and perfectly performed; the expert operator dexterously availing himself of the *moment of inspiration*, to effect the entry and passage of the vocal chords. Recent observations made by Professor Dalton,* completely sustain not only the propriety of this mode of proceeding, but go far to account for its practicability and facility. He affirms that during the act of inspiration, there is a lateral extensile movement of these chords, by which the entrance to the trachea is rendered more patent and oval in form.

Reasoning from these premises, we may perhaps explain why Mr. Erichsen failed in his experimentation in the cases of cut throat. Respiration would, in them, be carried on through the external wound, as we know to be the case in the operation of tracheotomy; hence, the opportunity for introduction would be lost, *per vias naturales.* Moreover, the integrity of the tube and its external coverings being destroyed by the cut, the natural resistance and fixity of the parts, which must undoubtedly aid in the introduction of the instrument, would be wanting. We would not be understood, however, to imply, that even under these circumstances the probang could not be introduced through the vocal cords; for those of our readers who have seen Dr. Buck's reported cases of operation on the larynx,† will remember that, after an opening into the trachea, he applied the caustic solution through the vocal cords.

There certainly are some obstacles to introducing the instrument in the dead subject, arising from the difficulty of bringing the head and neck into the appropriate position, and in retaining the opening of the mouth and fauces, the absence of respiration, and the generally relaxed condition of the tissues. But yet it has been very frequently demonstrated in this manner, and sometimes with great ease. This has very recently been accomplished in Paris in the presence, and for the satisfaction, of M. Trousseau by Dr. Douglas, of this city, who after the introduction of the probang, verified its presence in the trachea by dissection.

We hope and think that we have said enough to satisfy Mr. Erichsen of the feasibility of this operation, or, at least, sufficient to induce him to repeat once more his efforts to accomplish that which is done every day, by every enlightened practitioner who has any regard for his reputation for practical skill. And when he shall issue another edition of his excellent book, we anticipate that he will be courteous enough to make the *amende honorable* to those surgeons to whom he has given, in the passage above quoted, such a forcible and unqualified denial of what they state, and know, to be the fact.

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* See the American Journal of Medical Science for July, 1854.

† See Transactions of the American Medical Association.

We feel disposed to enter our *caveat* to Dr. Brinton's strictures on chloroform, given at page 79, and particularly to his assertion that its use in this country is almost entirely abandoned; but the length to which we have already extended this notice, precludes us from doing so more fully at present; and it may be, perhaps, equally well done in another place, and on some other occasion.

There are many things in this work to admire, and the discriminating reader will be well repaid by its perusal. ‡

Healthy Skin; a Popular Treatise on the Skin and Hair, their Preservation and Management. By ERASMUS WILSON, F.R.S., &c., &c.: Second American from the fourth and revised London edition. Philadelphia; Blanchard & Lea, 1854. pp. 291.

To write a book on medical topics for popular use, is always a difficult task. There is danger, on the one hand, of running into technicalities which destroy its value to the public, and on the other hand, a danger of leading the public to suppose that they have obtained all possible information on the subject spoken of.

Dr. Wilson evidently felt this difficulty in writing the little work now before us; for it could hardly have been the case otherwise, that he should have so successfully avoided it. It was with some prejudice that we took up the work; and this arose in part from certain notices of the work which we had seen, and in part from the fact that *popular* works do not ordinarily meet our individual approbation. We feel it our duty to say, that all of this prejudice disappeared on giving it a careful perusal. Doubtless some things in the work we should alter, if it were left to us to edit it; but it is in matters of taste, rather than in the fundamental characteristics of the book.

The general hygienic rules laid down by Dr. Wilson for the preservation of the general health, and the benefits to be derived from a careful attention to the condition of the skin, are admirable. Moreover they are discussed in such a way as to interest unprofessional readers at the same time that they instruct them; and we are confident that most medical men would obtain very valuable hints, either for rules of practice or of modes in which to persuade their patients to observe the necessary rules of personal cleanliness. In the preface the author speaks of the advantages of cleanliness to the poorer classes, and the necessity of providing bathing and wash-houses for them. As these have now been sufficiently tried in England to make the experiment instructive, we can properly quote what he says of their effects, commending his opinions to the consideration of the charitable among us. It is as follows:—

> It is too little to say that these institutions are calculated to carry cleanliness into the humble abodes of the laboring classes; they do infinitely more than this—they pour forth a stream of health, of happiness, of loyalty, of thoughtfulness; they elevate the moral position of those whom they succor; and the numberless benefits which they confer are not only enjoyed by those who receive, but are reflected upwards and around upon society at large.

One other good thing will be accomplished by this work, if it is perused by unprofessional readers. The difficult and foreign nomenclature of diseases of the skin has, as much as any thing, led to the great amount of quackery practised in them. The public rarely hear of eczema, impetigo, &c., while "salt rheum" is one of the household words. Neither are there any satisfactory English names by which most diseases can be spoken of to patients. Now, this book will, no doubt, tend to remove some of this popular ignorance; and for this reason, if no other, we do not hesitate to speak of it as a good and desirable work. §

The Dublin Dissector, or Manual of Anatomy, etc., etc. By ROBERT HARRISON, A. M., M. B., T. C. D., &c. Third American from the Fifth Dublin Edition: With additions, by ROBERT WATTS, jun., Prof. of Anatomy in the College of Physicians and Surgeons in the city of New York. [From the publishers, S. S. & W. Wood.]

To those who were first studying anatomy fifteen years ago, we need not speak of the merits of this work as an aid to the practical anatomist. We were wont constantly to refer to it during our pupilage, and consider that ourselves personally, and the medical profession generally in this country, were indebted to Dr. Watts for his additions to the original work, as well as for bringing the latter before the profession. It is, moreover, but justice to say, that the work is now precisely as valuable as it was at that time;

since it was stereotyped in 1840, and we do not discover that any alterations have been made since then.

We cannot, therefore, speak of it as a *new* book, nor as an old one with the "modern improvement" of woodcuts, now deemed almost indispensable in a work on anatomy; but so far as its *matter* is concerned, it still remains, as formerly, a well-arranged treatise for the guidance of the student in his dissections of the human body. †††

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PART III.—CHRONICLE OF MEDICAL PROGRESS.

[The abstracts and translations found under this title are made expressly for the AMERICAN MEDICAL MONTHLY.]

Clinical Lecture on Abdominal Subcutaneous Emphysema. BY DR. O'FERRALL.

THOSE who know most about abdominal tumors, will most readily acknowledge the difficulties which in practice are occasioned by the extraordinary variety in their nature. The student who believes he has mastered the subject of *tumors resonant on percussion*, when he has become acquainted with all those varieties which reside within the abdominal cavity, will discover, when he is, perhaps, least prepared for it, that he has something yet to learn; for the abdominal parietes are liable to a form of swelling, smooth on the surface, resonant on percussion, and of considerable dimensions. And this is *abdominal subcutaneous* emphysema. It is rapid in its formation, and distressing in its effects; and the sufferer will be impatient if any hesitation as to its nature be displayed. I trust, therefore, that the short description which I shall now give you may be sufficient to enable you to recognize this remarkable lesion, when presented for your opinion.

It is, as I have said, rapid in its formation; and the practitioner may receive an early summons to see a tumor as large and as tense as a dropsy; and he may be told that at bed-time, the previous evening, no trace whatever of this condition had been observed. The tumor or swelling may, on inspection, be found to occupy the whole area of the abdominal parietes, as well vertically as in the transverse direction. It may be colorless, or indeed, even remarkably pale. The skin is smooth, even shining and tense. On manipulation, this tension is found to differ materially from that arising from liquid effusion into the peritoneum, or that of an ovarian or other cyst. The integument is tense, but not resisting. The least and lightest pressure of the finger displaces it; but it instantly returns, and leaves no pit nor trace behind. There may, over the whole anterior middle portion of the abdomen, be no crepitation to mark its real nature; and, as yet, you may have only a suspicion, arising from the difference between the sensation then conveyed and that with which experience had rendered you familiar, in cystic or other liquid accumulations. A light and springy percussion now elicits an unequivocal tympany, but short and faint, and, indeed, unlike any you ever heard before. Still, it is tympany, however faintly marked. You now trace the swelling laterally toward either loin, and here a distinct crepitation is detected. It is similar, in all respects, to that which is met with over the neck and chest, in cases where, from any cause, an abnormal communication is established between the air-passages and the general areolar tissue. This crepitation may, perhaps, be detected also toward the inguinal regions, but is generally absent in the middle portion of the swelling. In the course of this examination, which is rapidly accomplished, you may now discover some blush in the integument, and, further on, a redness of greater or less intensity, and generally of a dusky hue. You are now approaching the real seat and source of the disease. The seat of this discoloration is different in different instances; but we shall suppose that, on approaching the sacral or gluteal regions, you find the discoloration most remarkable, and that here the parts beneath the skin have that peculiar feel to which the term "boggy" has been applied. What history shall you be likely to receive, on inquiry into the case? If the patient has not had competent advice, and has not been made acquainted with the nature of his malady, you will be told that for a long time, perhaps years, there has been constipation, pain in defecation, occasional hæmorrhage, mucous or puriform discharges, and that he has suffered, as he believes, from aggravated piles. You proceed to examine the rectum, and you discover some one of the various forms of organic disease of that part, diminishing and obstructing its calibre, and producing that state which a superficial and imperfect pathology has often described, under the name of stricture, as the essential disease. The emaciated condition of the patient is in accordance with the result of this investigation, and you have now a solution of the problem. There has been, in fact, perforation of the coats of the bowel. The natural attempt to limit, by what has been called adhesive inflammation, the depot thus formed, has failed; or some impulse or disturbance has broken through its lining of lymph, and the cellular tissue has become injected with the gaseous contents of the intestine. If the case has been in competent hands, you will be made acquainted with the fact, that disease of the rectum has been recognized, although the present accident may not have been anticipated.

That which I have now described is one source of *emphysematous* tumor of the abdomen. The case lately in Mary's Ward is still in your recollection; and you will remember the rapidity with which, in that case, the abdominal swelling was produced.

But suppose the gluteal and sacral regions afford no marks of local disease, you may, perhaps, discover indications of mischief as the fingers approach either groin; and here, or just below Poupart's ligament, you may encounter—first, the crepitation; next, the "boggy" feel; and then you may perceive the dusky discoloration before alluded to. The history belonging to such cases as this will differ materially from that which I have related, as connected with the former example. You may be told that an elastic swelling of long standing, and which occasionally disappeared altogether, has latterly become permanent, and firmer in consistence than before; that vomiting and constipation and pain, have suddenly appeared, and existed for a few days; and that, with or without medical aid, the bowels have become free, and the vomiting has ceased, while the swelling continued to enlarge and to acquire a red and congested hue. Now, what is this case? It is most probably a knuckle of intestine adherent to the mouth of a hernial sac, and having a perforation, or sloughy opening, through which feculent matter has escaped into the sac, and failing to be bounded by plastic inflammation, or from sloughing of the whole sac itself, has been injected with its fetid gases into the cellular tissue. An illustration of this form occurred in Joseph's Ward, about two years ago, and created a considerable degree of interest at the time.

Having traced the lesion to the neighborhood of the groin, you are not to conclude hastily that a hernial tumor is its source; and if the *right* inguinal region be the locality, there is more occasion for reserve on this point. The history may suggest another and very different organic change, as the source of the emphysema. You may learn that a firm and painful swelling has been felt in the abdomen, at the lower part of its right side, and just inside of the hip-bone. That constipation, or great irregularity of bowels, had been complained of, and had been succeeded by sickness or vomiting, with chills or rigors, and a fever more or less strongly marked. That the integuments about the groin had become red and painful, and that extension of the limb occasioned considerable suffering. You may, in fine, have the history of *phlegmonous tumor in the right iliac fossa, or ileo-cœcal abscess.* On examination, you may detect, in addition to the boggy swelling, a gurgling which is transmitted, by pressure, upwards in the direction of the ascending colon. In this, as in the former cases, the lesion evidently consists in the escape of the gaseous contents of the intestine into the areolar tissue.

It is surprising how rapidly the cellular web becomes injected by this poisonous element. A few hours may suffice to develop a swelling extending all over the front of the abdomen.

The crepitation which is so characteristic of emphysema is, as I have said, not always to be detected in the most prominent portions of the swelling. This would appear to arise from the over distention of the cellular plates, which very soon lose their vitality, and fall into a sloughy state. In one case I had an opportunity of inspecting the parts, which had been destroyed by contact with the deleterious agent; and when incisions are made into such parts, the nature of the change is equally apparent.

The extent to which the abdominal parietes may be occupied by this peculiar swelling will not be the same in all cases, and will depend on its duration. If you are not consulted for twelve or eighteen hours after its commencement, the swelling may then have engaged the entire area of the abdominal surface, and have assumed the smooth, tense, hemispherical prominence alluded to. At an earlier period of its progress it will occupy a less extensive surface, and one half, perhaps, of the abdomen will exhibit this peculiar swollen condition. I have also seen it present a distinct swelling at each side of the external margins of the recti muscles, the connection between those two portions being established by a transverse projection across the hypogastric region. In the case where the swelling occupies the whole anterior surface, the appearance of the abdomen might, to a hasty view, suggest the idea of a cavity tense with liquid effusion.

The practised observer will, however, even here, remark that the umbilicus is depressed and buried in the middle of the swelling, and he will contrast this appearance with that which is displayed in dropsy. In the one case, the umbilicus is sunken and concealed ; in the other case, the umbilicus projects, and may be even distended by the liquid within.

It is, notwithstanding, by the careful exercise of the finger, that the diagnosis is to be established. It is to the diagnosis alone, that I now wish to direct your attention. The treatment, as well as a history of its results, will form the subject of another inquiry.

Abdominal cutaneous emphysema is, no doubt, a rare accident in those diseases, in the course of which it is liable to occur. Malignant disease of the rectum may pass through all its stages without perforation of the intestine; and when perforation takes place, it is, in the majority of instances, limited by plastic deposit; and thus the fetid abscess is conducted to the surface by routes which vary in different cases. The contents of the sloughing hernia may reach the surface in a similar way, and an artificial anus be the result. The ileo-cæcal abscess may, in like manner, be uncomplicated with this lesion. The resonance and the gurgling which I have, on a former occasion, described as characteristic of some forms of this abscess, are entirely different from the diffused and huge emphysematous swelling to which I now refer.

But rare as it undoubtedly is, it has been frequently witnessed in this hospital (St. Vincents), and you should be prepared to recognize it when suddenly presented to your notice.

Emphysema has been described with great accuracy by Hunter, Bell, and others; but the emphysema of authors is that produced by escape into the cellular tissue of atmospheric air modified by the products of respiration. As hitherto observed, it is generally confined to the parietes of the chest and the neighboring regions of the neck, although its extension to other parts of the body is verified by the records of surgery. The emphysema, however, which originates in inflation from the intestinal canal, and most generally occupies the abdominal regions alone, and in this place gives rise to a swelling likely to be confounded with disease of the abdominal cavity, is now, I believe, for the first time described.—*Dublin Hospital Gazette*, *March* 1, 1854.

Abstract of a Clinical Lecture on Abdominal Tympany. By Dr. O'Ferrall.

Abdominal tympany is met with under various forms; it announces the meteorism of fever, and it accompanies many of the inflammatory and nearly all obstructive diseases of the alimentary canal. There is one form, however, which seems allied to the condition termed hysteria, but which presents some physical characters simulating organic disease, and which requires some patience and care, in order to establish a satisfactory diagnosis.

A girl, twelve or thirteen years old, is brought to you for advice, on account of supposed abdominal disease. You observe that she is pale, but not emaciated, that the abdomen projects unnaturally, and that her mode of progression is very peculiar. The chest is thrown back, the arms hang, the spine is remarkably curved, and the child walks exactly like a woman balancing a large ovarian tumor or gravid uterus. The usual percussion in the erect position, will soon enable you to assure yourself that there is no dropsical effusion into the peritoneum.

You now proceed to examine the abdomen in the horizontal position. Expiration is imperfect, and the respiratory act becomes frequent and embarrassed as the examination proceeds. You remark that the tumefaction is not uniform: a shallow transverse depression running across, a little above the umbilicus, marks the abdominal swelling into two portions.

In a girl, aged thirteen, recently measured, the circumference of the abdomen across the upper portion was 32 inches; across the lower portion of the abdomen, 29½ inches; and across the middle, 27½ inches. The abdomen generally feels resisting, and remarkably elastic; the resistance at the right hypochondrium gives a sensation of a more solid nature, and in some instances pressure in this situation appears to make the patient wince. It deserves to be remarked, however, that the seat of sensibility is not always the same in different cases. Percussion over the lower half of the abdomen elicits a loud and prolonged resonance; over the left hypochondrium the tympany is short and more acute in tone, while in the right hypochondrium a distinct and marked dulness is afforded to percussion.

Now, with this evidence before you, to what conclusion can you reasonably arrive? There is no dropsy, and the existence of mesenteric or malignant disease appears opposed by the general condition and expression of the patient. Hepatic enlargement appears the most probable supposition. But the position in which the patient is lying, with the spine arched prominently forward, instead of receding from the pressure of examination, throws a difficulty in the way of this opinion. This want of accordance between the symptoms and physical signs, leads you naturally to examine the thoracic cavity. You proceed to percuss the right chest from above downwards; percussion yields a clear sound down to, and even below, the very margin of the false ribs. This solves the difficulty, and proves that the dulness in the right hypochondrium cannot proceed from enlarged liver; because, if this viscus was enlarged its increase in the upward direction would necessarily have compressed the lung, and produced dulness as high, perhaps, as the nipple.

But there is the hypochondriac tumor; what can it be? If not an enlarged liver, what is it? Why, manifestly, a displaced liver. There is dulness on percussion below the margin of the false ribs, where it ought not to be; and above the margin of the ribs, where it ought to be dull, it is clear. Something has evidently pushed the liver down from its place, and against the anterior walls of the abdomen; what can that be?

It is not any thing contained within the cavity of the thorax. There is no evidence of either emphysema, pneumothorax, nor empyema; and if nothing within the chest has pushed down the diaphragm, in the manner indicated by the displaced liver, it is most likely that the diaphragm must have descended by its own contraction. It is difficult to imagine a strained contraction of a muscle, like the diaphragm, for long periods of time; but there seems to be no other means of accounting for the phenomena. And when we consider the many well authenticated cases of long-sustained muscular tension which have been recorded as having occurred in catalepsy, as well as in the so-called mesmeric condition, it does not appear unreasonable to suppose that such a persisting contraction of the diaphragm and abdominal muscles may be maintained in certain states of the nervous system, and produce physical signs similar to those I have described. Watchfulness is often a characteristic of this peculiar condition. In general, it will be found impossible to discover the patients in a state of sleep so profound as to render them unconscious of examination.

In a case of this kind, recently under observation in St. Vincent's Hospital, all other means of procuring temporary relaxation of the muscles having failed, it occurred to me that the cautious use of chloroform might be employed for this purpose.

This was done before the class of pupils, to whom, as an instance of abdominal tumor, the case was an object of peculiar interest. Being very cautiously employed, the chloroform was slow in its operation. The pulse remaining satisfactory, it was persisted in until a condition of sleep was produced. The most remarkable change now took place in the appearance of the abdomen. The recti muscles became relaxed, and sank backwards, until the surface of the abdomen became actually concave. The upper and lower tumors subsided; and now, on percussion, the dulness beneath the ribs was replaced by a moderate degree of resonance, and percussion on the lower ribs no longer sounded preternaturally clear: the diagnosis was complete. As soon as consciousness returned, the tumor was found to possess every character as before described.

Sir Benjamin Brodie has described a curious state of the voluntary muscular system, in which paralysis of the lower extremities was supposed to exist, but in which there is really only required a strong will on the part of the patient in order to develope the seemingly absent power. In practice we frequently meet with such cases; and there is reason to believe, with Sir B. Brodie, that the want of a strong will to execute the power is the essence of the morbid condition. It would be a curious subject of inquiry, whether a condition nearly opposite, of the nervous system, may not exist, in which, with scarcely a consciousness on the part of the patient, muscles known to be voluntary are capable of extreme and prolonged contractions, in defiance of all advice or persuasion, and to the manifest inconvenience, and even suffering, of the individual.

Cases like that here described are occasionally subjected to treatment, a result of erroneous diagnosis, founded upon a hasty or imperfect physical examination. I have known instances where the iodine plan was carried to its utmost limits, in the hope of reducing a supposed abdominal tumor. The treatment should consist of such means as are calculated to improve the general tone of the system and promote a cheerful temper: shower baths, calisthenic exercises, and exercise in the open air. The bowels are, in many cases, regularly moved, although the swelling persists, and terebinthinate purgatives have no effect upon it. I have known the lower swelling diminished by the rectum tube, but the return of the swelling almost immediately succeeds its employment. The chalybeate preparations are generally indicated by the state and appearance of the patient. Moral treatment is not without its influence; but nothing in this way will avail without obtaining the confidence of the patient in your friendly disposition towards him.

The physical diagnosis is, in those cases, that on which you must rely, to prevent your employing injurious remedies. Now, in a careless examination, physical evidence might create a difficulty; if limited to the abdomen itself, it might confirm any previous suspicion of the existence of abdominal disease; extending, however, the field of its application, physical evidence removes the difficulty, and throws a clearer light upon the physical condition of the organs. Physicians of large experience must be familiar with, and prepared for such difficulties; but the student cannot have too many aids to guide him in his investigation of obscure disease.—*Dublin Hospital Gazette, Feb.*

Report of some Cases of Articular Disease occurring in Mr. Syme's Practice, illustrating the advantages of the Actual Cautery. By JOSEPH LISTER, M.B., London, F.R.C.S., Resident Surgeon to the Clinical Wards of the Royal Infirmary.

CASE I.—*Omalgia; Application of the Actual Cautery; Cure.*

Margaret Ashton, æt. 25, admitted October 25, 1853; a servant; has generally enjoyed good health, and has a very robust appearance. Four months ago, after exposure to wet and cold in washing, she had a severe fit of shivering, and was seized a few days after with pain in the right shoulder, just below the acromion, so severe that she could scarcely lift the arm; this lasted about twelve hours, and was followed in the course of the next day by intense pain in the left shoulder, below the back part of the acromion. From that day till her admission she was unable to raise the arm; the pain was for the first two months extreme, keeping her as if "in the fire all night," and banishing sleep almost entirely. During the last two months she has rested from work, and has suffered less. On admission she complained of constant gnawing pain in the left shoulder, and extending down the limb as far as the elbow, and sometimes to the fingers; when in the sitting posture she held the affected limb with the other hand, to ease the pain; the arm was also affected with a feeling of numbness and weakness; and although the shoulder was not very tender on pressure, and very gentle passive motion of the arm could be performed, through a considerable angle, without pain, yet any attempts on her own part to move it produced great aggravation of her sufferings. As a result, no doubt, of habitual disuse, the muscles about the shoulder were much atrophied, and this caused a remarkable, apparent prominence of the bony points, viz., the spine of the scapula, the acromion, the anterior border of the outer part of the clavicle, and the head of the humerus. The shoulder had an appearance that suggested at first sight the idea of dislocation.

On the 3d November, the patient being under the influence of chloroform, Mr. Syme cauterized thoroughly the skin over the anterior and posterior aspects of the joint, rubbing a red-hot cautery iron freely backwards and forwards four or five times over each part. It had the effect of raising and rubbing off the cuticle, but did not char the skin. An hour afterwards the patient was suffering but little pain.

Nov. 4. Said, with a smiling countenance, that she slept well last night, the first time for four months, and feels now no pain save that of the burns.

Nov. 5. A poultice was applied yesterday; the pain of the burn is now gone, and she feels *no pain at all.* Says that she has not only lost all pain, but also that the feeling of numbness is gone from the limb, and that she seems to have more power in it. The burned parts present a white, sloughy appearance.

The poultice was continued till the sloughs separated, when simple cerate was substituted for it, with the view of retarding, rather than promoting cicatrization.

Nov. 12. To-day she has been trying to lift the arm, and felt none of the old pain in the attempt.

Jan. 31, 1854. She has to-day left the Infirmary. She has for some time past been gradually acquiring more and more power in the limb; she can move the arm backwards and forwards for a considerable extent, and even raise it slightly. The movements of the forearm are free; there is no tenderness whatever about the shoulder. The return of the use of the limb has been accompanied with a restoration of the fulness of the muscles; so that there is now no difference between the contour of the two shoulders. She continues quite free from spontaneous pain.

I saw her again towards the end of May. She was still quite free from pain, and there remained only some stiffness about the joint, that prevented her from raising the arm to the full extent.

Case II.—*Disease of Shoulder Joint; Actual Cautery; Cure.*

Lily Kay, æt. 50, admitted March 23, 1854. Has generally enjoyed good health, except that for the last twelve years she has suffered inconvenience from what she supposed to be rheumatism in the right shoulder, characterized by shooting pain, occurring more especially when she attempted to lift any thing. In January last the limb became completely disabled from increase of the pain, which now assumed a gnawing as well as a shooting character, and also began to be felt in the elbow joint, and in the arm, forearm, and hand. At this time she first observed the existence of swelling about the shoulder joint.

The pain continued to increase till the time of her admission into the Infirmary, when it was exceedingly severe; not constant, but frequently keeping her awake at night. She was unable to raise the arm from the side, and had a sense of weakness in the limb, and some stiffness of the hand. There was considerable swelling about the shoulder-joint, which was tender on pressure, particularly at the anterior and posterior aspects. On the day of admission Mr. Syme applied the actual cautery freely over the anterior and posterior parts of the joint, the patient being under chloroform. From this time she lost the old pain entirely, or at least was uncertain whether that which she still felt was not altogether that of the burn; and though the pain of the burn was considerable till the sloughs separated, yet it was much less distressing than the old pain, for which it was substituted, so that she slept much better than before the application of the cautery. The slough came away on the 1st April, on which day she had a slight return of the old pain near the wrist; but it has not occurred again, and she is now (4th April) quite easy. The swelling about the shoulder has almost entirely disappeared, and there is little, if any, tenderness; the sores are granulating healthily.

April 14. Continues quite easy.

She was discharged on the 27th April; I saw her about a month after, and she still continued free from pain.

Case III.—*Disease of Wrist Joint: Actual Cautery; Cure.*

Janet Archibald, æt. 32, admitted November 2, 1853. Rather a weakly subject. In October last she "took a shivering," without any particular exposure to cold; and a pricking pain came on in the left wrist, which increased for a time, and was accompanied with swelling. She applied poultices medicated with acetate of lead; and under their use a great improvement had taken place at the end of five weeks, when she got fresh cold in it, as she says, and it became excessively painful. The pain continued ever after, till her admission; and although its extreme severity was then somewhat mitigated, yet it kept her awake a good deal at night; it was partly dull and heavy, and partly of a shooting character, and extended down through the hand and fingers. There was also an occasional tingling sensation in the fingers, and a sense of unnatural weight in the limb. A great degree of swelling existed about the wrist joint, particularly on the dorsal aspect; and this part when manipulated gave a feeling very like that of fluctuation, so that her medical attendant had been desirous to open what he had supposed a collection of matter there.

Mr. Syme regarded the condition of the wrist as almost hopeless, but as he thought suppuration had not yet occurred, he determined to give the limb a chance with the actual cautery; which he accordingly applied on the dorsal aspect in two lines, crossing one another over the articulation. The pain and swelling both diminished greatly during the first four weeks after the cauterization; some aggravation of the symptoms then occurred for a time; but, as the sore was still open, Mr. Syme thought it unnecessary to interfere further; and a gradual improvement afterwards took place, till at the time of her leaving the Infirmary (Feb. 14, 1854) there was scarcely any swelling and very little pain.

I saw her again on the 10th of June; there was then no swelling whatever about the wrist, and no uneasiness except a painful feeling of weakness when she exerted it much.

Case IV.—*Disease between the Atlas and Axis; Actual Cautery applied with great benefit.*

Thomas Smith, æt. 27, admitted June 20, 1854. Generally enjoyed good health till eighteen months ago, when a stiffness of the neck came on without any assignable cause, with pain when he turned round his head on the pillow; the pain increased greatly, and deprived him altogether of sleep for seven weeks, during which time he lost three stone in weight. There was severe pain in the head as well as in the neck, aggravated to an extreme degree by either nodding or turning of the head, particularly the latter, which, indeed, he at last never did without turning the rest of the body also. He applied to numerous medical men in Birmingham, where he lives; and blisters and caustic issues were repeatedly applied to the back of the neck, but never gave more than very slight and very transient relief; and he says that from the commencement of his complaint he never had one minute's freedom from pain, except during sleep, till he came here.

At this time he was, according to his own account, about as bad as he had been at all. His countenance wore a peculiar expression of mingled suffering and apprehension, as Mr. Syme expressed it. He complained of severe pain in the neck and head, aggravated by any sudden movement, so that there was a great constraint about all his actions. He always kept his head bolt upright, except when in bed, and could neither lie down nor get up without supporting his head with his hands; he never turned his head without the rest of the body; but gentle nodding was not very painful. There was great swelling of the upper part of the neck, and he could only open his mouth a little way; deglutition was extremely difficult, and a remarkable prominence of the bodies of the upper cervical vertebræ was to be felt in the pharynx.

On the day after his admission, Mr. Syme applied the actual cautery over the spinous processes of the upper cervical vertebræ. The man was not under chloroform, and said he hardly knew whether the pain was greater even at the moment, than what he had experienced from caustic issues; and immediately afterwards he told us that he did not feel the pain of the burn at all. Next day he found less pain in moving the head, and in two or three days his countenance assumed a cheerful aspect. A steady daily improvement has since taken place in his symptoms; and at the present time (July 15) he has no pain whatever when he sits at rest, and can also use strong and active exertion without uneasiness, and no longer requires to support his head in lying down or rising; he can turn his head round pretty freely and look up to the ceiling, and it is only in sudden movements of the neck that he feels any pain at all. The swelling of the neck has greatly subsided, and he can open his jaws wide, and swallow with comparative facility. The sore on the neck is almost healed, and he talks of leaving the hospital in a few days as cured.

Remarks.—The above cases speak for themselves; and I might add several others, that exemplify in an equally striking manner the beneficial effects of the actual cautery in certain forms of articular disease. It will be observed that it is by no means so painful a remedy as is generally supposed, and also that its good effects are more than can be attributed to the mere discharge of pus from the sore which it produces, seeing that a great improvement commonly occurs within a few hours of its application, and long before suppuration is established.

It is now many years since the use of this means of counter-irritation was introduced into Great Britain by Mr. Syme; but although a constant series of successful cases have since continued to demonstrate its value to those who have witnessed his practice, yet I am satisfied that it has not hitherto been sufficiently generally appreciated. Case IV. is an example of its efficacy against a most formidable disease, where caustic issues had been long tried in vain. I believe many limbs and lives have been sacrificed that might have been saved by the actual cautery, and by it alone; and having been myself very strongly impressed with the importance of the subject, I should be truly glad if any surgeon, who may have hitherto overlooked it, should be induced by the above report to inquire more closely into its merits.—*Monthly Journal of Medical Science*, *August*, 1854.

Remarks on Cupreous Soda Water, with Comments.

To the Editor of the American Journal of Pharmacy:

Dear Sir,—I saw an article in your last Journal upon the "*Poisonous Effects of Soda Water from copper fountains and lead pipes*," by J. Ogden Doremus, M.D., in which he states that he "procured several gallons of the favorite beverage, and submitted it to chemical examination." The substance which first attracted attention was copper. "This was very abundant in soda water obtained from several obscure shops, where it was presumed the traffic was limited, and, consequently, the acid water remained longer in the copper condensers." Persons who are not altogether ignorant of the process in which soda water is made, are aware of this important fact. It is a fact evident, that if soda water be left standing in the copper fountains for any length of time, even a day, it will become impregnated with the copper, especially if the fountain is not lined with tin. Dr. Doremus says, "that a large portion of the soda water which he submitted to chemical examination was procured from obscure shops, where, it was presumed, the traffic was very limited." In such instances it is highly probable, simply from the important fact that it was limited to such an extent, that it would not *pay* to have the fountains re-tinned every year, and new pipes refitted; therefore persons should be very cautious about drinking soda water at all such establishments. Persons who are fond of the beverage should, in all instances, get it from the more respectable establishments, where the trade is very large, as for instance, I have known Messrs. * * * *, apothecaries, of St. Louis, to dispense from fifteen hundred to two thousand glasses per day. In an instance of this kind, the soda water remains in the condenser only a very few hours; and it has been submitted to chemical examination, and was found to be perfectly pure.

Dr. Doremus says, "that he was informed by a resident of St. Louis that, while the cholera prevailed, most persons abandoned the use of soda water. It was a common remark that Mr. —— took a glass of soda water and was immediately attacked with cholera." This is all very true, but it was only when Mr. —— took a glass of soda water at one of those obscure establishments, which are very numerous in St. Louis.

EDWIN R. SWANN.

St. Louis, Sept. 11*th*, 1854.

Remarks by the Editor.—In publishing the above letter, it is with some doubts as to its utility; yet, as in the preceding number, page 422, we introduced the paper of Dr. Doremus (which has called it out), without comment, it is proposed now to add a few observations. The leading point in Mr. Swann's letter is, that soda water can be obtained in good order from stores whose reputation for the sale of the beverage enables them to dispose of it quickly, thereby tacitly admitting that even such stores are liable to, if not obliged to, employ apparatus unfit for the purpose, did not the short contact of the fluid render any ill effects from it impossible; and, of course, carrying the inference that in small establishments it would be almost impossible to prevent the sale of cupreous soda water. If this idea was acted on, consumers would be compelled to go to a few establishments for supply, on the penalty of being poisoned otherwise. Now, we believe it is quite possible that good carbonic acid water can be furnished by vendors whose sales do not amount to more than one or two fountains per week; as we know by trial that in thoroughly tinned fountains, with proper tubes,

&c., the water may be kept for weeks without cupreous impregnation. The difference all turns on the conscientiousness of the manufacturer, in attending to the re-tinning of the fountains at proper intervals; and on the pharmaceutist, in proper attention to the tubes, stop-cocks, and other portions of the apparatus belonging to him. There is no difficulty in ascertaining the condition of soda water, if the apparatus is in fault. The addition of a few drops of solution of yellow prussiate of potash to a glass of the suspected soda water, placed on a white marble slab, or a sheet of paper, will occasion no change, if pure; but if even a minute portion of copper is present, some shade of purplish brown will be manifest on looking down through the fluid, amounting, in many instances, to such a depth of color that the ferrocyanuret of copper separates in flocks. In order to ascertain whether it is the draw-cock, the cooler, or the fountain that is in fault, let the operator draw say half an ounce of the water from the tube connecting the draw-pipe with the cooler, then a portion from the cooler, and a third portion from the fountain directly. Let him then fill test tubes of equal dimensions with each specimen, and add a few drops of the test solution to each, as long as it causes coloration. By comparing the tubes, especially by looking down through the liquid with the tubes held on white paper, it can readily be seen which has the greatest depth of color, or whether the coloration is equal in all; if the latter, the fountain is probably most in fault; if the former, the fountain may be either less faulty, or, in some cases, faultless, in which instances the water drawn from it gives no coloration at all.

In our opinion mineral water should only be sold by persons who know how to test it and have the means at their disposal; hence apothecaries are, as a general rule, better qualified than confectioners, grocers, and others; yet so extremely careless are some apothecaries of their apparatus, that often, without being aware of it, they vend cupreous mineral water, and occasion inconvenience to their customers. The simple test above given should be known and regularly applied by all who sell this beverage; and as the apparatus used at most of the small dealers is owned by the manufacturers, and hired to the dealers, the latter should protect their reputations by insisting on having the water capable of standing the test above noticed after two days in use. We believe the source of the dissolved copper is more frequently in the cooler and stopcocks than in the fountains; and where these belong to the vendor of the water, the remedy of course rests with himself.

As regards the use of tinned copper fountains, there is no real objection, provided they are kept properly tinned. It would be a great improvement, if, as suggested by Dr. Doremus, these vessels were made in two sections or hemispheres, with flanges securely bolted together, with gutta percha or gum-elastic packing between; so that the druggist himself could inspect their interior when desirable. The chief cause of the use of imperfectly tinned fountains is the expensiveness of re-tinning them, and the difficulty of inspecting their interior, owing to the solder joint. For the reason of its tenacity, durability, and lightness, copper is greatly preferable to the other metals for this kind of apparatus, where it has to be transported from the manufacturer to the retailer; and it is worthy the attention of our druggists and coppersmiths whether fountains cannot be eligibly constructed so as to be taken apart at will, and rejoined by bolts. We will suggest, as an improvement, that the lower section of the fountain be a cylindrical vessel strengthened by iron bands, with a hemispherical bottom, and furnished with a horizontal flange above. The upper portion to be a simple hemisphere, of dimensions similar to the other, with a flange to fit that of the other portion; and the two brought together on a ring of gum-elastic packing cloth, by means of a pair of ring clamps, with screw bolts, at intervals of three or four inches around their circumference. The stopcock should of course surmount the upper hemisphere; and it would be well that the tube descending from it to the bottom of the fountain should be entirely of block tin, if it could be supported in any way compatible with the amount of motion and jarring to which the fountains are subjected during transportation. One difficulty in the way, is the necessity of using brass stopcocks. Although the interior surface can be tinned, it is more liable to become exposed and is more difficult to inspect than open surfaces. In reference to the tubing for connection, there is no difficulty in having the short connection, from the drawcock to the cooler, of silver, or at least of tin; but in that fromthe fountain in the cellar to the cooler, a distance of seven to ten feet, the necessity for some substitute for lead is not so easily overcome. We have used gutta percha tubing for several years past, but it is liable to crack longitudinally near the connecting joint, and at first, in the experience of some, gives a peculiar taste to the water, which, however, ceases by use; block tin is better, or lead lined with tin. Mr. Simes, of this city, who we believe manufactures his own carbonic acid water, employs cast-iron fountains lined with enamel, which are unexceptionable, so far as we know, when they are not to be transported; their great weight rendering them ineligible in that case. Such fountains are hung on lateral pivots, like a cannon with its mouth up, which enables the operator to agitate their contents when desirable.

Although we do not think the sweeping remarks of Dr. Doremus are quite correct; yet we believe they will do good by directing the attention of the public, as well as the vendors, to the subject, and cause better arrangements to be adopted and more care exercised.—*Am. Jour. of Pharmacy. Nov.* 1854.

Study. By Mr. Joseph Ince.

[We find so much good sense in the following, from the Pharmaceutical Journal, for June, 1854, that we cannot but give it an insertion; at the same time especially commending its ideas to the careful consideration of the younger members of the profession.—Ed. A. M. M.]

Half the intellect of London has arrived there with a few shillings and a carpet-bag. Its great writers, statesmen, merchants, adventurers of every kind, down to its great chemists, have travelled on the same stage-coach. Family distress, narrowed opportunities, and sometimes actual want, have been the best heritage of many of our illustrious men. It is for us with a laudable ambition to follow their example, and to act in our turn as they have done before; in furtherance of which object a theory is offered, and its practical results worked out, addressed exclusively to those assistants who have little time, no competent advisers, and no friends. Such an one on first being introduced to the subject, would infallibly remark, "These excellent discourses read very nice on paper, difficulties surmounted make great men; but I am nothing but a druggist's assistant; I have early and late hours, while my time is not my own. The tide of fortune might roll my way in vain, for I have business to attend to, pills to roll out, and physic to make up. Besides, I have a strong notion that retail pharmacy contracts the mind; drugs and success in life form no amalgam. If some good friend would kindly leave me a legacy, or people have no medicine after eight o'clock, I might perhaps then read a little, do something, and improve." Of course after this statement you naturally feel better; so now, will you just let me give you my quiet mind? What makes success? and who are the men who gain it? Every one knows who fail. Give a man plenty of time and sufficient money, and he will in general make no use of the first, and waste the second. Great natural opportunities, an easy access to society, friends, a crowd of teachers, a ready-made position involving no struggle and no anxiety, shut out for ever the most distant hope of extrication from such a Capuan luxury. It is a fatality to be born with white kid gloves. To all this there are bright exceptions, but so few that they only prove the rule; nor do these works apply to hereditary rank, where habitual cultivation and contact with elevating circumstances produce noble specimens to the contrary. The past is the great teacher for the present; nor is there a more consoling thought, than that what man has done man may do. Physic has not the contracting influence you imagine. An assistant like yourself, while in a suburban district, managed to become as brilliant in literature as he now is high in law; and it needs some self-denial, on the part of the writer, to refrain from citing endless instances.

So much for intellect. Infinitely more to the purpose it is to know, that those who never left their original calling, succeeded in it with no greater advantages than you possess. The names best known are the most appropriate illustrations, though personal mention would be both invidious and indelicate. All first-class chemist's establishments are now so interwoven and associated with daily city life, that each separate firm, with its owner and reputation, seems part of the current course of events. But there was a time when these very houses were not in existence. Their directors were hard-working, persevering, determined assistants, with not a tithe of the advantages of the present day. Education had to be dug up. The scanty Latin of their youth was mystified in an unintelligible grammar, which has only been swept away within the last few years. Greek was considered a language well adapted to the Athenians; and an austere schoolmaster who taught for his salary, was not likely to awaken a strong interest in general knowledge. After this pleasant commencement, the young beginner was apprenticed to a chemist, because his parents thought it *such a nice, clean business;* accordingly, the tyro found himself immediately smothered up to his eyes in white, red, and blue paint, not unlike the clown at Astley's, happy to present himself to society not too redolent of varnish, and, having escaped the oil-can on the one side and the black-lead on the other, allow a comprehensive apron to cover all deficiencies for seven long years. He then came to London. No institution taught him any thing, no good and cheap books instructed him. There were museums for surgery, anatomy, and geology, but none for him; there was less time than there now is, and rougher work. What then? The battle of life was before him, and he won it. Success, almost barricaded, was carried by assault. Fame was not an heirloom in the family, it was gained slowly but surely. The shop, though draughty enough in all conscience, was never favored by some special gale from heaven which swept in the customers, advertised the drugs, and improvised a reputation; yet somehow or other the new house and its owner by degrees gained itself a name, passed into a household word, and became as well known as St. Paul's Cathedral.

Study was the talisman which wrought the enchantment. One hour a day devoted for three years to regular, uninterrupted, systematic reading would enable you to reach the limits of your ambition. Three years! what an age! But unimproved or not they *will* go all the same; so why not make the best of them in passing? The sole question is, can you get one hour. Such is the internal constitution of some houses, that it is quite impossible. On this subject we are fearful of being led astray by temporary excitement, which would gain no object, but simply create annoyance. We believe it to be the interest of none but the gas companies to commence business before the day-dawn, and protract it beyond the dead of night. It is the interest of masters to have the cordial sympathy of their assistants, and not their unwilling services. It is the interest of the public to be served by an intelligent being, and not by a spectral incompetent. It is the interest of the assistants to have the requisite time for improvement here, and the opportunity for attending those sacred duties which are to fit them for hereafter.

Now for a few practical details: ten pages can be well read in one hour. "Why, bless us all, I can read fifty without the slightest trouble—thirty at least." In "bless-us-all gentlemen" we have little confidence; the first month finds them at work like a steam-engine, the second at the bottom of their beds. They are like those remarkable young ladies who *learn* French in three months, pick up Italian on their way, and take German at a hand-gallop—a process which causes a slight embarrassment to the respective natives.

Returning to the decimal system, which is after all the best, a short tabular view may tend to enlighten the subject One month contains in round numbers thirty days, consequently ten pages every morning would be 300 pages a month, from which the following *average* result might ensue:—

Pereira's Materia Medica	1900 pages	6 months.
London Pharmacopœia	550 "	2 "
Christison's Dispensatory	950 "	3 "
Thomson's Dispensatory	1150 "	4 "
Brande's Chemistry	1500 "	5 "
Turner and Liebig	1240 "	4 "
		2 years.

The whole of these are books of general reference.

Supposing that one hour would only master six pages a day of chemical works requiring more than ordinary attention; then 180 pages would be read each month, and 2160 pages in a year, which would include the following:—

Fownes' Chemistry	550 pages.
Gregory's Outlines	560 "
Royle's Materia Medica	700 "
Fresenius' Analysis	350 "
	2160

Nothing now remains, to make this table accurate, but to correct for pressure of time and density of head.

It will not be supposed for a moment that the mere reading of these books will constitute a well-grounded acquaintance with their contents, but the list shows that there is a possibility of accomplishing far more than is generally supposed in a very limited space of time. Few, indeed, would have courage to drag through some of the ponderous volumes enumerated; nor would such a herculean task be advisable. Such calculations are necessarily imperfect, though useful; as there may be interfering circumstances, over which there is no control. Sickness will sometimes throw its shadow over the brightest hopes. It may be a fancy, but we have always felt the toilsome nature of unassociated chemistry, and therefore suggest the following plan:—

Allow one hour, every other day, to the consecutive, continuous reading of *one* outline work, by which means you would triumph over 150 pages a month, and 1800 pages in the year.

It is usually desirable not to pore over the same manual too often, after having once carefully perused it; but to commence another, which, though treating on the same subject, is expressed in different words. There are few introductory treatises of more than 600 pages each.

At the same time, it is well to know that an occasional dip into one book, varied by a short reading of another—a snatch of Brande, a glance at Daniell, a look into Fownes, and a general survey of Gmelin, Parkes, or Faraday—will consume the same amount of time, and lead to nothing.

No one can hide from himself the absolute necessity at the present day of being acquainted with at least the elements of French and German. The two languages have become of trade importance, to say nothing of any intellectual enjoyment they may afford. The time will be well spent that is devoted for three alternate mornings to the hard study of the first. Now our imaginary assistant looks unwell, and delivers himself as follows: "Yes, very good, if I had learned at school; but they taught nothing there but Latin, of which I only recollect the first page of Cæsar's Commentaries. It would cost two or three guineas a quarter for a master, and I should be ruined in grammars, dictionaries, and books of reference; besides which, you can never persuade me that I can learn French in one hour a day." No, very likely not; but you will soon convince yourself of that important fact. Perhaps you have seen the title of a pamphlet, "Plenty of Work, and how to do it." The *modus operandi* is as follows: Buy a Cobbett's Grammar. Read it through and through until its chapters are burned into your mind, and when the excitement of a new impulse ceases, wade through its dreariest details with still untiring energy. London is a wide place, containing all sorts of people, nor is there any difficulty in meeting with Frenchmen as acquaintances. More could be learned from them in casual intercourse, than by any other means. From hence you cannot move a step without a teacher; no very alarming undertaking, as the slightest arrangement with two or three others similarly disposed would secure his services at a trifling cost, while to those living in the city, opportunities obtrude themselves unsought. Having gone thus far, devotion would suffer little were you occasionally to attend the services of a foreign church.

The first year closes, during which a good insight into Elementary Chemistry has been gained, as well as a tolerable advance into the rudiments of French. Union is strength, and on this principle some book should occupy the second year, which contains the best combinations of Chemistry, Pharmacy, and Materia Medica; of which, perhaps, there is no better specimen than Pereira's "Elements." If it be possible, borrow it; if not, club together and buy it, for it must be had. The three alternate days still remain for disposal. For the second year it would be an useful variety to allot one hour a week to German, the other two being claimed by French, as usual. One of the best grammars is by Dr. Tiarks, price six shillings; but dictionaries, manuals, and all sorts of foreign books may be picked up for a very little at a bookstall. Personal reserve is the only hindrance to companionship with some of the numerous resident Germans. Need it be mentioned, that the best aid to study is at your own disposal? Buy any foreign work and its English version, then constantly translate and retranslate alternately from one to the other, correcting your attempts afterwards by the book in hand—for instance, "*Les Confidences*," by Lamartine, or "*Undine*," by De La Motte Fouqué. Children's books are not to be despised; they are at first of greater service than Racine or Schiller.

The prospect brightens as the drudgery of elementary study is gradually left behind; and on the third year it would be no presumption to enter at once on those works in which the first principles of pharmacy are carried out to their legitimate application, such as "Watson's Principles and Practice of Physic," or Bowman's "Practical and Medical Chemistry." Perhaps now is the best opportunity of understanding and tracing out the different preparations included in the various pharmacopœias, for which the summary presented by Mr. Squire will be no small assistance. The two languages may also be studied together; but by this time they will have become an integral part of reading, not a separate branch. To gain this point will amply compensate for the hardships of the struggle; nor can we express a kinder wish for the student than the inheritance of such joy, recollecting that a contented mind is a continual feast. All this may be realized by one hour's application. Botany has been intentionally omitted, as it requires for its right study ample leisure and out-door speculations.

To those gentlemen who have time at their own disposal, who have free access to museums, libraries, and lectures, and are surrounded by all the appliances of learning, these remarks may seem absurd; but they are intended alone for those who have very scanty time and most limited opportunities. Weary, indeed, beyond description, is the manual occupation of ignorance. Can there be a harder fate than with an empty mind to associate with a row of monotonous bottles, a gas-jet, and unmeaning implements of coction? If you but knew the heaven you could create within you by this practice of habitual study! Knowledge turns the meanest circumstances into sources of enjoyment. Under such influence the solitary chamber brightens up, the charm of the Casino fades, and an inward satisfaction finds its expression in acts of good-will and courtesy in daily life.—*Pharm. Journ.*, *June*, 1854.

A Case of Quadruple Birth. By S. Kennerly, M.D., Augusta County, Virginia.

On the night of the 5th of August, I was called to see Mrs. W., supposed to be in labor. On my arrival I was informed by my friend, Dr. A. Waddell, who had also been called in, that he had just delivered the head of a child, which had been expelled feet foremost, the head being retained. He was told that it had been in that position for two hours. Upon examination, we found that there was a second child inclosed in its membranes; and as there had been no recurrence of pain since the partial expulsion of the first child, and the mouth of the womb being entirely relaxed, we concluded that the safest plan would be to administer ergot, and complete the delivery. We accordingly gave her ʒ i of liquor ergotina, prepared by Purcell, Ladd & Co., which quickened and increased her pain; and in three quarters of an hour the second child was expelled, followed by a subsidence of pain. On examination, we found a third child presenting, breech foremost, with no membranes around it. After waiting half an hour, and no pain recurring, we brought down the feet, and repeated the liquor ergotina in the dose of ʒ ss, and in half an hour the third child was expelled. On examination, we found a fourth child presenting, head foremost, which was expelled in about twenty minutes, inclosed in its proper membranes. There were two distinct placentas, and they soon followed the birth of the fourth child. One was very large, and divided into three distinct lobes, each lobe having its respective chord attached to its centre. The smaller placenta was a little larger than either lobe of the larger placenta. The children (three boys and a girl) were all born alive, but neither lived over fifteen minutes. I suppose they were not viable, for they were evidently born too soon, though they were perfect in every respect, so far as I could judge. The finger and toe nails were perfect. They weighed nearly eight pounds next morning, and measured sixteen inches in length. Mrs. W. did not expect to be confined until the latter part of October next, and thinks she quickened about the middle of June. So the children must have been under seven months. She did not suffer as much as in either of two former labors of single births, and is doing remarkably well. What seems a little singular is, that there should have been a total suspension of uterine contractions for two hours after expulsion of first child, even while its head remained in the vulva, and the second child protruding from the womb into the vagina. I think that the second and third children were inclosed in the same membranes, though their cords were each attached to its respective lobe of the larger placenta. There was but little hæmorrhage, and the womb contracted well after the expulsion of the placentas.

Since the occurrence of the above case, I have attended three other women in confinement, two of whom had twins; neither of which cases possessed any particular interest.—*Stethescope, August* 24, 1854.

Etherization in the Treatment of Insanity. By Dr. Ray, Butler Hospital, Providence, R. I.

(Read before the Association of Superintendents, May, 1854.)

The remarkable effect of etherization upon the nervous system, under certain conditions, naturally led to trials of its use in the treatment of mental disease. The result, at first, was not such as to recommend it to favor; and now, I apprehend, it is seldom used in our hospitals for the insane. Several incidents contributed to this result, which should be thoroughly considered before making up a final judgment on the matter.

In the first place, probably too much was expected of it. Its wonderful power of annulling sensibility seemed to warrant an expectation of speedy and signal benefit in the treatment of mental disease; and therefore, when the patient, after a few trials, was apparently but little, if at all improved, it was too readily concluded that etherization furnished no new resource in this department of the healing art. In the disappointment of these undue expectations, the fact was overlooked, that, though it could not immediately arrest an attack of insanity, it might, nevertheless, if skilfully applied, accomplish some very important objects in the restorative process.

It is doubtful, too, if it were always correctly administered. The much greater quantity required to affect the insane must have often led others to believe, as at first it did myself, that, for the most part, the insane are not susceptible of its influence, or, at least, not to the same degree as the sane. The early direction to sprinkle a little of the fluid on a napkin, and hold this to the nostrils, utterly failed to bring out its peculiar properties. In

Dr. Brigham's account of his experiments with ether,* it is obvious that, in not a single instance was the patient completely etherized. In fact, they were all as far from it as they would have been from narcotization, after taking a few drops of laudanum.

It has also been generally supposed to be unsafe in recent cases; and hence its effects have been seldom witnessed in the class of patients most likely to be benefited by it. In a few instances, too, it was reported to have produced new and more disagreeable manifestations of disease, such as suicidal propensity, painful delusions, &c.

From these various causes it has happened that etherization has not had a faithful trial in the treatment of insanity, and, consequently, that its real efficiency has not been discovered. The utter impotence of other remedies to control some of the graver manifestations of disease led me, about five years since, to resort to etherization; and within that period I find, by examining our records, that it has been administered in the Butler Hospital to about twenty-five patients, and, altogether, about two hundred and twenty times. Few among us, probably, have had an ampler experience with the article than this; and it has struck me that I could not better employ the occasion than by giving some account of it. To relate every case would, of course, be impracticable, and I must therefore content myself with a general summary of results.

In the treatment of recent cases, I have found it more reliable than any thing else in combating certain conditions, and inducing others more desirable. We have all, I presume, had ample reason to know how little we can depend on opium, or any other narcotic, to allay that intense nervous excitement sometimes present, leading to incessant movement, violent agitation, and sleeplessness, and which calls for speedy relief, because it rapidly exhausts the vital energies, and while it lasts, is incompatible with any restorative process. For myself, I am quite satisfied that they usually make the matter worse. Neither have I seen much benefit from the cold or hot bath, both of which have been strongly recommended for this purpose. Accordingly, when we had placed the patient in the bed-strap, and thus rendered jactitation impossible, we felt that we had done about all which the resources of the art permitted. It was certainly better than nothing. It sometimes calmed the excitement, and thus prepared the patient for sleep. It prevented disagreeable bruises, and kept him out of harm. But nobody will contend that, as a remedial measure, it was often followed by much success. The patient will not always get sleep in this manner, and restraining apparatus will frequently chafe and become inadmissible. When the nervous condition, here referred to, proceeds from some form of that acute maniacal affection now so common in our hospitals, the danger is imminent, and relief must be speedy. Night after night is passed without sleep; food is loathed and rejected; the vital forces are being rapidly consumed; and symptoms of dissolution appear, almost before we are aware of any danger. Every hour, while this condition remains, renders recovery less probable; and only a few days are required to decide the event. Any contribution to our means of relief in this class of cases, must be cordially welcomed; and such a contribution, in my opinion, is the inhalation of ether. If it has not always effected recovery, it has never failed to alleviate suffering, and render the necessary attentions more easy and gratifying.

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* See Vol. iv., p. 73, American Journal of Insanity.

In the early periods of the ether discovery, its use was supposed to be unsafe in acute mania; but my experience has not confirmed this opinion, for it is in this form of disease that its benefits have been most decidedly manifested. Nor am I aware of a single instance in which it could be charged with accelerating the progress of disease, or producing any other disagreeable effect. Etherization for the purpose of curing mental disease by some specific operation, as quinine cures intermittents, will seldom succeed, and I have never used it with precisely this end in view. What I contend for is, that certain conditions which may accompany insanity are removed by it with unexampled success; and to these I shall briefly advert.

We all know that the insane are sometimes so far under the dominion of imaginary terrors, that they lose all self-control, and exhaust themselves in their efforts to escape the threatened evil. An old man, habitually calm, was at times so overwhelmed by the idea that enemies were after him, that he cried, screamed, and labored with all his might in moving about his furniture back and forth, while every joint trembled, and perspiration ran down his body in streams. In a few minutes after beginning to inhale ether he was plunged into a deep sleep, and for twenty-four hours or more enjoyed a truce with his terrors. Another, suffering under acute maniacal disease, and manifesting the same trait, was wont to seize upon the attendant when leaving the room, as if afraid of being left alone. On one occasion, so strong was his grasp that the attendant found it impossible to get away. Another, and still another, came to his aid; and these three men labored to disengage themselves, until they became exhausted and powerless. At this moment the assistant-physician happened to come along, and seeing the trouble, immediately etherized the patient, and thus put an end to his terrors and to his agitation.

We have all, no doubt, experienced the difficulty of introducing the stomach-tube, against the utmost resistance of the patient. Broken teeth and bleeding lips are not the most disagreeable among the consequences of such an operation. The moral impression is inconceivably painful, and not calculated, while it lasts, to promote any restorative process. Etherization prevents all resistance; the mouth readily opens, the tube is quietly thrust into the stomach, while the patient may not even be aware of what has been done. With my present views upon the matter, I should always resort to etherization whenever the patient refused to be passive under the operation of introducing the tube.

The introduction of the catheter, too, when required, is sometimes so strongly resisted as to become exceedingly embarrassing to the physician, and painful to the patient. The matter is still worse when there exists a stricture, or any other abnormal condition of the parts. Under such circumstances, etherization proves to be an invaluable blessing, for it enables us to perform a painful and dreaded operation as quietly and easily as the most acceptable service.

In chronic cases the occasions which seem to require its use are not so frequent, but I have sometimes resorted to it in order to break the force of the violent paroxysms by which many of them are marked. Such persons are thus rendered more comfortable, both to themselves and to others, and that, too, without the sacrifice of any important point. A female patient, who has been with us from the beginning, has a paroxysm once in five or six months, when she has always manifested an extraordinary degree of noise, violence, destructiveness, and malice. She may have slept an hour or two in the twenty-four, but the rest of the time she was incessantly stamping, pounding, vociferating, abusing everybody, and resisting the most necessary attentions. Narcotics were thoroughly tried, with but little, if any, benefit. By etherizing her at bed-time, she would get a quiet night, was far less wild during the day, refrained from destroying her clothing, and could be easily handled by a single attendant. In one case a single etherization was sufficient to convert a patient, remarkably noisy and agitated, into one of the most quiet in the house.

In suicidal cases, accompanied by much nervous excitement, etherization at night is peculiarly appropriate, because it enables the patient to sleep, and furnishes additional security. In one of the severest I ever observed, and which was also accompanied by a strong homicidal propensity, it was used with the happiest results. For several months her own safety required that an attendant should be near her perpetually; and, not unfrequently, this was insufficient without mechanical restraint. The night was often spent in struggles with the attendant who slept, or rather stayed, with her, with such physical and moral consequences as might have been expected. She lost flesh, her pulse rose, and countenance became wild and haggard. All other treatment failing, we thought of etherization; and it was one of the first cases in which I used it. Given at bed-time, its effect was a quiet night, several hours of sound sleep, and a well-marked improvement during the day. Under its use two or three weeks, this improvement passed into decided convalescence, and in the course of two or three months it was impossible to discern a single unhealthy manifestation. She was then discharged, and not long after was married.

These results of etherization certainly recommend it to our attention; and if they are confirmed by the experiments of others, it is evident that we possess an invaluable remedy in the treatment of mental disease. If it is to be despised because it fails to procure immediate recovery, then it may as well have never been discovered. The world, however, is united in believing that its power to abolish pain under the operations of surgery renders it a signal blessing to man; and it will regard our conduct as neither humane nor judicious, if we despise its aid in suspending the still greater pains of insanity.

The anæsthetic agent which I have used is rectified sulphuric ether. It is unquestionably the safest; and, with the single exception of the comparative slowness of its operation, it is not inferior, in any respect, I apprehend, to any other. The patient lying on his back, the ether is poured upon a sponge of a cup-like form, which is applied in such a manner that the hollow completely embraces the nostrils, care being taken to allow the ingress of a sufficient amount of air. As fast as the fluid is dissipated, it may be supplied by pouring from a phial. Complete etherization is effected in a period varying from half a minute to five minutes, and requires from half an ounce to two ounces. The quantity required depends more upon the quality of the article than it is generally supposed. Ether made by the druggist who furnishes me with whatever is required in his line—A. L. Calder, of Providence—was found to possess three times more efficiency than that obtained from Philadelphia. It is probable, too, that the more potent the article, the purer it is, and that the fatal consequences which sometimes follow etherization are owing to the impurity of the article used, rather than any idiosyncracy of the patient. However this may be, whoever begins the use of ether with a poor article will be more likely at last to abandon it entirely, than retain it as one of the most satisfactory means within his reach for combating some of the most intractable manifestations of mental disease.

The apparent effect upon the patient under its immediate operation is tolerably uniform. When completely etherized, he becomes insensible and unconscious, and seems to be in a deep sleep. In this condition he remains, in most cases, about twenty or thirty minutes, but not unfrequently from two to four hours. He then wakes up, looks around, talks perhaps, and usually passes into a sleep of a more natural character, which may continue for several hours. If he remains awake, however, he is comparatively calm and quiet for several hours; when the occasion for the remedy is generally renewed. When used for the purpose of subduing excitement, and procuring sleep, the best time for administering it is in the evening, for the simple reason that sleep and quiet are more refreshing when procured during the night than during the day. Of course, the ordinary precautions should be observed. I should hesitate to etherize a patient whose pulse intermitted, or whose lungs were supposed to be seriously diseased.

In using ether by lamp-light, it should be borne in mind that it is highly inflammable, and therefore must be kept at a considerable distance from the light. I have known it to inflame when being poured from a jug, though at least three feet from the lamp.

So far as my success with etherization may be attributed to the manner in which it has been administered (and I am inclined to think that much depends upon this), the credit is properly due to my assistant, Dr. Ranney, who, by frequent and careful practice, has obtained all that skill which is necessary to the highest degree of success.—*American Journal of Insanity.*

Expulsion of a Coin from the Larynx by an act of Coughing: with observations. By T. G. Geoghegan, M. D., F. R. C. S.: Surgeon to the City of Dublin Hospital and the Hospital for Incurables, etc., etc.

The following instance of foreign body in the larynx, I propose to append to those already recorded by me in this journal.* I do so the more willingly, as the selection of the line of practice suitable to such an emergency is not unusually attended with difficulty. In a case in some respects similar, the treatment sagaciously devised by Sir B. Brodie attracted much attention. It will be remembered that the celebrated engineer, Mr. Brunel, while performing some tricks for the amusement of children, had the misfortune to draw into his larynx a half sovereign which he had placed in his mouth. The coin ultimately became engaged, as was believed, in the right bronchus, and was finally expelled, some days after the accident, by inversion of the body, preceded by tracheotomy. In the following case a fourpenny piece was disengaged from the larynx by cough, occurring while the patient was in the stooping posture. A healthy lad of 17, admitted into the City of Dublin Hospital, stated that during a quarrel with one of his fellow servants, having at the time in his mouth a sixpence and a fourpence, he spat out the former coin, while the latter disappeared. He was immediately seized with cough, of such violence as to produce epistaxis, and great difficulty of breathing, both of which, however, speedily subsided. He was seen two hours after the accident, and was then aware that the coin had entered the windpipe. While at rest, he suffered no inconvenience, and the breathing was quite unaffected. When desired to cough while in the erect or sitting position, a peculiar valvular or obscure rattling sound was distinctly audible in the larynx. The stethoscope placed on the organ did not render this at all more perceptible, nor could it be elicited (save on one occasion) while the patient was in the horizontal posture. It somewhat resembled that which attends an unsuccessful effort to expel a mass of tough mucus. Respiration was of equal intensity under both clavicles. During the night he had a few fits of coughing. On the next day the symptoms were in all respects the same.

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* Dublin Medical Press, vols. xi., p. 103, and xxi., p. 49.

In considering the mode in which the case should be dealt with, and reflecting on the uncertain issue of the natural expulsory efforts, the possibility of their leading to sudden suffocation of the patient, by impaction of the coin in the glottis, or the risk of the body being transferred to the bronchus, it appeared to me inexpedient to temporize.

The physical signs seemed to indicate pretty clearly that the coin was seated in the larynx.*

I proposed, therefore, to make a suitable opening in the crico-thyroid space, and should the foreign body be readily seized, to extract it by the forceps. In the event of this manœuvre not proving successful, the expedient of inversion of the body, aided if necessary by percussion, was to be then resorted to. By this mode of proceeding, I had hoped at once to gain more direct access to the offending substance, and to save the patient the more dangerous operation of tracheotomy. In order to give full effect to this method, it would be necessary, before opening the crico-thyroid ligament, to effectually restrain any hæmorrhage arising from the laryngeal branch of the superior thyroid artery, which, though small, often bleeds rather freely; and also to have the patient carefully maintained, as far as possible, in the horizontal posture, during the employment of the forceps, and subsequently, until inversion had been practised, if necessary.

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* Morbid growths in the larynx, when pendulous, give rise, in a modified degree, to the symptoms of foreign body. An interesting example lately presented itself in an hospital patient of mine, who died of another disease. He had been subject for some years to attacks of irritative cough, uneasiness referred to the situation of the thyroid cartilage, and latterly almost complete aphonia. I found, on dissection, a soft, lobulated growth of rather considerable size, translucent, of a light gray color, and strikingly similar to nasal polypus. It was loosely attached by a narrow pedicle to the middle of the lower chorda vocalis of the right side. A similar but smaller and sessile tumor was observed on the left upper one. I believe that growths of this nature are rather rare. If the disease admitted of an accurate diagnosis, it might possibly, in some cases, fall within the range of operative surgery. When the morbid growth becomes detached (as in the case of tuberculous mass, which I have recorded in the Medical Press, vol. xi., p. 103), the symptoms will of course be essentially the same as those observed in cases of foreign body introduced from without.

Although the course above proposed, received the assent of my colleagues and other surgical friends, it by no means satisfied the patient, who, notwithstanding suitable explanations, withdrew from the hospital disconcerted. He returned to his employment, and on the morning of the third day, fifty hours after the accident, while stooping in the act of washing a carriage, he was seized with a fit of coughing, and expelled the coin. This he returned to exhibit with a certain amount of triumph.*

The instance now recorded, may be considered as one of those less common cases in which a foreign body has been expelled from the air-passage by natural efforts. As such a result, however, must be altogether fortuitous, it cannot, according to my judgment, be construed as affording a precedent for withholding an operation on similar occasions. This view will, I apprehend, be readily conceded by those who are conversant with such accidents; for there is perhaps no occurrence in surgical experience, the results of which are more varied, and sometimes more unexpectedly fatal, than that in question. In some instances, where the body, in entering, has been caught in the glottis, and possesses a suitable figure, complete obstruction and immediate death result; in others, having passed the aperture, it may become engaged in the ventricle of the larynx, or the crico-thyroid hollow; or finally, it may descend into the bronchus. In the latter case, as the interbronchial crest deviates to the left of the median plane, the foreign substance will generally occupy the right bronchus. Should it be a light substance, it may be dislodged from thence by the unassisted efforts of coughing, and be either fortunately expelled, or kill the patient by becoming impacted in the glottis; or lastly, it may become entangled in the interior of the larynx. Should it, on the contrary, be a heavy substance, such as a coin or bullet, it may become lodged for an indefinite period in the bronchus, and, having produced symptoms more or less grave and persistent, either terminate the patient's existence by suppuration or gangrene of the lung, or (as occurs much more rarely) be expelled by cough when assisted by a favorable position. Of the latter happy result, a case has been lately recorded, in which a pistol bullet, under the conditions just assigned, was coughed up from the bronchus after forty days.

I think it, on the whole, very probable that in the present case, the coin was lodged in the *ventricle* of the larynx. Its size and figure, taken in connection with the mildness of the symptoms and the peculiar effect of change of posture on the sound of the cough, appears to support this view. Had the body not become thus engaged, it is likely that, in a subject of the patient's age, it would, as in Mr. Brunel's case, have descended to the bronchus, especially as the diameter of a fourpence is to that of a half-sovereign but as 5 to 6. When the foreign body occupies the situation just described, it does not, however, the less endanger life, nor is it the less subject to sudden, disastrous, and unexpected changes of position. In many cases (perhaps in most) no precise evidence can be obtained of its exact situation.

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* By a singular coincidence, I removed, not long afterwards, from the rectum, by the forceps, a fourpence, which had been swallowed, and arrested by a narrow stricture of that organ. It was blackened by the sulphur of the intestinal secretions. The coin from the larynx had of course undergone no such alteration.

Auscultation and percussion will afford valuable aid in some instances, as, for example, where a body of extended surface or considerable size occupies the bronchus in a position favorable to nearly complete obstruction of that tube. In many other cases, however, where the body occupies the larynx or trachea, and as so often happens, is enveloped in mucus, or where it is of small volume, little assistance can be expected from the stethoscope; still even its *negative* indications should be invariably sought for. In estimating the diagnosis of foreign bodies in the windpipe, I may be permitted, lastly, to remark, that sufficient stress, as it appears to me, has not been laid on the fact, that although the pulmonary or laryngeal symptoms are in themselves often equivocal, they have suddenly attacked an individual who had, immediately before, been engaged in some unguarded respiratory movement, and who had some foreign substance at the time in the mouth, and that although at first urgent, these symptoms often subside, to recur again with greater or less intensity.

With regard to the treatment which I had proposed to myself, it will be observed that, in its essential features, it would have been the one adopted by that distinguished surgeon and physiologist, Sir B. Brodie, in the case of Mr. Brunel. From the indications afforded by the symptoms, it appeared to me, however, that in the present case it would have been more feasible to have opened the crico-thyroid space (by *full* crucial incision and reflection of the flaps) than to have resorted to tracheotomy; for, considering the coin to be situated either in the ventricle, or in some other part of the larynx, I judged that it would have been thus more directly accessible, in the event of its lying in a favorable position for immediate extraction.

In a case in which I removed a dog's tooth from the larynx of a girl of seven years, by tracheotomy, I found it impossible to reach the body with the curved forceps until, fearing injury to the mucous membrane of the larynx, I prolonged the incision, not only through the cricoid cartilage, but also through part of the crico-thyroid ligament. Mr. Porter, who was present, concurred entirely in the propriety of this proceeding, which, I had the satisfaction to find, left the functions of the larynx quite unimpaired

As to the practicability of removing a body of the diameter of a fourpenny piece, through the crico-thyroid space, this will be sufficiently apparent when I state, that I have found the transverse diameter of that space, in the adult, to be seven-eighths of an inch, and double that of its vertical. Now, as a fourpence has a diameter of five-eighths of an inch only, ample space would be thus afforded even for a larger body, especially when the elasticity of the parts is considered.*

I do not perceive any valid reason, anatomical or physiological, why the tube should not be divided when necessary (as in the case just mentioned) through the cricoid, or even through the *thyroid* cartilage; provided always, that *the median line* be strictly observed; and I feel satisfied that any speculative danger on that score, is far outweighed by the actual mischief inflicted on the delicate and important mechanism of the larynx by repeated ineffectual efforts to grasp the body from the *trachea.* The unossified cricoid cartilage permits of considerable divarication of its cut edges without any force; and in the event of the foreign body having passed into the bronchus, the space thus gained might be increased without danger by the removal of a thin slice from the margin, as often done in the trachea, and by prolonging the incision into the upper rings of the latter. A suitable slender forceps might be then readily introduced, while some of the dangers and inconveniences of tracheotomy would be thus avoided. I have found in the living subject, as above related, that the division of the isthmus of the thyroid body is not necessarily accompanied by any hæmorrhage; nor is the latter likely to occur to any important extent, even in the adult, when the structure of the gland is not diseased. The operation just described, which, I may observe, has been proposed, and I believe performed, by some of the older French surgeons, would thus have the advantage of rendering *both* the larynx and bronchus accessible in those numerous cases in which doubt exists as to the precise situation of the foreign body.

With regard to the operation of inverting the patient's body, viewed in connection with an artificial opening in the windpipe, this well-considered manœuvre, as is well known, was crowned with success in Mr. Brunel's case, and happily illustrates the importance of that union of physiological and surgical science, of which Sir B. Brodie's career affords so distinguished an example. Had it been necessary to have resorted to this procedure in the case which forms the subject of the present observations, the question might naturally have arisen, whether the proximity of the proposed artificial opening to the glottis, would have exerted any influence in preventing that quiescent condition of the muscles of the latter, which it is the intention of the operation to secure,—further—whether inversion should *precede* the employment of the forceps, or be resorted to only in the event of the failure of the latter. And lastly, where the former plan has been decided on, the inquiry would suggest itself, whether any and what interval should elapse between laryngotomy and inversion. As respects the attempts to grasp the foreign body by the forceps, should it be found tangible from the wound, I apprehend few surgeons would be disposed to forego the attempt, in favor of a preliminary inversion of the patient, which, if unsuccessful, might lead to a transference of the substance to the bronchus, &c. These are questions which, with the limited number of facts at present at our disposal, cannot be answered with precision. In Mr. Brunel's case, sixteen days, I believe, elapsed between the operation and the subsequent inversion; and it seems, on general grounds, not unlikely (at least where a previous attempt to grasp the body has failed) that *some* interval should elapse, in order to re-assure the laryngeal muscles, and to allow the glottis to acquire the passiveness essential to the success of the manœuvre. In confirmation of this view, I think it will be found, that in most cases where food has passed into the larynx, through a glottis paralyzed by tracheotomy, this result has not taken place very shortly after the operation.

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* I find the diameter of a half sovereign to be six-eighths of an inch.

When a coin has entered the larynx, it has been proposed by Dessault, and also by later observers, to introduce a gum-elastic catheter into the glottis, in the hope that while air would be thus supplied, the foreign body would glide edgewise along the instrument when the patient was inverted, and that hence an artificial opening might be dispensed with. Such a procedure, however, appears, on obvious grounds, to be not very feasible.

Although in the foregoing observations I have, in common with most surgeons, advocated the propriety of not trusting to the uncertain issue of natural efforts for the expulsion of the offending substance; still, no one who has witnessed many such cases, can be insensible to the dangers which invest operations on the air tube. Some of these arise, at times, most unexpectedly, as, for instance, spasm of the glottis at remote periods, after removal of the canula, when all is thought secure. But on the other hand, circumstances occasionally occur, which must not be hastily charged on the operation. Thus, in a case which I have already recorded, the impaction of a mass of viscid mucus in the bronchial bifurcation caused sudden death many days after tracheotomy had been resorted to. Again, congestion of the brain sometimes takes place as the result of the violent respiratory struggles which succeed the accident, and may terminate life, *after the operation*, with convulsive or comatose symptoms, analogous to those observed in the secondary asphyxia of submersion.

PART IV.—HOSPITAL RECORDS.

The winter courses of lectures having commenced at the several schools of medicine in this city, a marked difference is observable in the wards of the different hospitals, from the number of students who are to be seen in them. It is really quite gratifying to find that there is a growing desire manifested by the students for clinical instruction at the bedside; and those who come to New York to prosecute their studies will find ample means within their reach to gratify this laudable spirit of inquiry, in the best field for observation—the surgical and medical wards of a hospital. Their own observation, if they will only exercise the powers with which God has blessed them, will do much, and the pertinent remarks of the visiting physicians and surgeons will aid them materially in recognizing the principal characteristics of disease and the result of treatment. A word of advice may not altogether be thrown away in this place. Instead of crowding after the professor or teacher to every bed in the wards, a custom attended with great inconvenience to all—surgeon, patient, and students,—it is much the better plan to attend to one or two cases only, to watch these narrowly from their admission to the termination of the disease, and to make notes of what is seen and heard in relation to each case. A few kind words to the patients thus selected, after the formal visit is paid, will frequently elicit much information which would otherwise be lost; and a habit of questioning and examination will thus be established, very advantageous to every one in after life.

Nor does the duty of observation cease with the discharge or death of the patient. In the former instance, the endeavor should be made to obtain another case of similar disease, in order to mark the differences exhibited by it, in order to trace their cause or origin, in constitutional peculiarities or other modifying circumstances—the influence of different remedies and modes of treatment. In the latter event, the postmortem examination should be carefully noted, so as to make the eye familiar with the pathological changes produced by the disease.

As the MONTHLY has its readers among the students, for whose benefit this digressive exordium is written, the more experienced practitioner is requested to view it with favor.

NEW YORK HOSPITAL.—During the summer months many cases of Chagres fever, of an obstinate character and severe type, have been admitted to the wards of this institution. These cases came here suffering from the aggravating effects resulting from a warm voyage, generally in crowded vessels, with constitutions very much shattered by repeated previous attacks, and in many instances by irregular habits. To eliminate the poison taken in by the system during a residence in the malarious districts, under such circumstances, requires great care, and a long-continued course of active medicinal and cautious dietetic treatment. The success attending the plan pursued in this Hospital has been very marked; although many leave before convalescence has been fully established, and suffer subsequently from relapses, not unfrequently seeking for readmission.

It has become a popular custom, one not uncommon even among the profession, to give this type of fever the name of the locality at which it is generally contracted; but there does not appear to be any cogent reason for supposing it to be a specific type of disease. It must be regarded as the ordinary bilious remittent of warm and tropical latitudes, exhibiting, it is true, some irregularity in the train of symptoms, and particularly in the periods of remission; assuming at one time all the characters of active hepatic congestion, which in a subacute form accompanies all the varieties, with remissions more or less distinct; at another time presenting many of the phenomena of violent tertian or quartan ague. Not unfrequently it will pass into a typhoid type, in which the vital powers are very speedily exhausted. In all the varieties however, there is no doubt that the exciting and controlling influence is the malarious poison.

Dr. Bulkley has treated three cases of pleuritic effusion very successfully, by paracentesis thoracis.

During the time in which the French vessels of war were in our harbor, upwards of twenty cases of scurvy were admitted. This is a form of disease rarely seen now-a-days, particularly by landsmen. The great benefit of the dietetic treatment pursued must have been appreciated by all who witnessed it. They very speedily recovered under the use of vegetables and fruits, and a mild course of diaphoretics and purgatives.

In the surgical division of this institution, among other cases of interest, an attempt to reduce a dislocation of the femur on the dorsum ilii, of some standing, is worthy of comment. The case was under the charge of Dr. Markoe, who adopted Reid's method of reduction. Unfortunately, during the manipulation necessary for the purpose, it was ascertained that fracture of the neck of the bone had taken place. This is a casualty exceedingly apt to occur, I suspect, in this peculiar mode of procedure and one which every precaution must be employed to guard against. The truth is that, although apparently very philosophical in principle, it is by no means very easy of accomplishment. It requires much physical power, and great practice and tact in the operator. In the hands of its author it has proved very successful, and many others have been equally fortunate, in following his instructions. But it must not be overlooked, that it involves the application of a mechanical power which requires, for its complete control, an intimate knowledge of the laws regulating it; that its application is made to living tissues under peculiar relations, and themselves subservient to forces and laws which cannot be brought to bear on inert matter. Nor is it improbable that the structural integrity or resistance of the parts implicated, may be so disturbed as to be inadequate to the amount of force necessary to be used in the operation, a condition not always easily ascertained beforehand. In recent luxations, in subjects not very muscular and strong, this mode of reduction may be employed with advantage by those familiar with "the trick of it;" but should always be adopted and carried through with great caution.

Dr. Buck has recently employed the modification of clamp-suture introduced to the profession by Dr. Sims, in bringing together the edges of the laryngeal wound in a case of cut throat; with what advantage over the old method of stitching, the result of this and other cases can alone establish.

WARD'S ISLAND. *Encephaloid Tumor of the Parotid Gland.*—Professor Carnochan removed, some time ago, a large encephaloid tumor of the left parotid gland, from a man twenty-five years of age. The tumor was of six months growth, and involved all the adjacent glands. It occupied the anterior and posterior triangles of the neck, passing under the sterno-mastoid and behind the deep jugular vein, covering the dorsum of the neck; and in front nearly reaching the clavicle. All the tissues being matted together by the disease, rendered the operation a very serious and intricate piece of dissection. The common carotid was tied, as a preliminary step, above the omo-hyoid; this measure Dr. Carnochan stated he adopted for two reasons: first, to prevent hæmorrhage during the operation; and secondly, to alter the nutrition of the parts, and thus prevent a recurrence of the disease. The sterno-mastoid was cut through during the operation, and six vessels tied. After the tumor had been removed, a portion of powdered sulphate of copper was blown into the extensive cavity left, and over the wounded surface generally. The wound has healed kindly. It is somewhat singular that the same patient should be the subject of congenital dislocation of both ossa femoris on the dorsa iliorum.

Ligature of the Femoral Artery.—This operation has been twice performed lately, and on the first occasion under the following circumstances, involving a point of practice of some interest. A man sustained a wound of the plantar arch by glass, hæmorrhage had occurred at intervals for two weeks, which had very much debilitated the patient. The tissues of the foot around the wound were very much infiltrated with coagulated blood. The femoral was tied at the apex of Scarpa's space. This proceeding has been followed by perfect restoration of the parts to the normal condition, the cessation of the hæmorrhage, and the improvement of the general health. There has been some numbness of the extremity, but no great loss of muscular power.

It has been recommended by high surgical authority to cut down directly on the wounded vessels, and apply the necessary ligatures to the severed extremities—a course which would seem to insure the same results, with less disturbance to the general nutrition of the limb, and to obviate the risk of gangrene, which sometimes supervenes when the supply of blood through the main artery is cut off. If this proceeding was rendered impracticable by the condition of the parts around the wound, the selection of some vessel not quite so important, such as either or even both of the tibials, would seem to be a preferable alternative. There may have been, however, in this particular case some other circumstances which governed the operator in electing the ligation of the main trunk; and it has been successful. The second operation was done for aneurism in the popliteal space, in a fine healthy man, and with every prospect of a favorable result.

Amputation at the wrist joint was performed for caries of the bones of the carpus and metacarpus. In the course of the operation it was discovered that the extremities of the radius and ulna were also diseased, these were then sawn off. It is unfortunate when this necessity arises, inasmuch as the primary incisions have to be modified to some extent in consequence, in order to permit the due removal of the newly displayed diseased portions. It would seem to be a question, therefore, whether in a case of doubtful diagnosis, it would not be better to determine the point of section at once sufficiently high to effect the removal of all the probably diseased structures, particularly where, as in the present instance, an inch or two less would not affect the utility of the stump.

Removal of the entire Radius. It is very seldom indeed that in the course of so short a period of time, it should occur to the same surgeon to have to perform two operations of such a rare and peculiar nature, as the entire removal of both bones of the forearm. The readers of this periodical will remember that during the earlier part of this year, a report was given of the removal of the entire ulna. Dr. Carnochan has since published the case in detail. He has very lately removed the entire radius, with the same happy results which attended his ulna case. The wounds in the latter instance are not yet sufficiently cicatrized to enable one to judge of the extent of mobility and power retained by the wrist and hand; but judging from present appearances, there can be little doubt but that they will be preserved, although, perhaps, not to the same extent, inasmuch as in this instance, it is the bone which enters most largely into the formation of the wrist joint which has been removed. The disease of this bone had existed for twelve months, and there was partial ankylosis of the elbow joint. Some little trouble was experienced from the severance of one of the interosseous vessels, evidently enlarged by the diseased action; but the hæmorrhage was easily controlled by ligation.

Dislocation of the femur reduced after four months. A case of dislocation of the os femoris in the ischiatic notch of the left side, in a man of upwards of 30 years of age, which had been displaced for four months, was admitted, with a view to its reduction. The attempt to effect this was made in the first instance by the pulleys. The adventitious attachments of the head of the bone were broken down by this means, but the displaced bone remained in its abnormal position in spite of very severe traction. At this stage of the proceedings recourse was had to Reid's method, in as far as it is applicable to dislocations in this situation, and with the happiest results; the bone was replaced. Shortly after its reduction, however, it slipped back again, but was again replaced by similar manipulation. The limb was then placed on the long straight splint, and has since retained its place; and the patient is doing well.

Dr. Cox has commenced a series of demonstrations on the pathological specimens obtained by *postmortem* examinations of those patients who die in the medical, obstetric, and children's wards. We took occasion, some time ago, to allude to this gentleman's admirable cliniques in his own department; we can only add, that the additional advantage to be gained by the student, from this more recent arrangement and additional service, is not one to be slighted or overlooked. The demonstration has hitherto been given on Saturdays, immediately after Professor Carnochan has concluded his operations; but as this brings it to a very late hour sometimes, it is to be hoped that Dr. C. may find it to be consistent with his other engagements to give his address at an earlier period of the day.

Total destruction of one kidney.—A specimen was shown, in which one kidney was entirely destroyed by suppuration; nothing remained but the capsule of the gland, which looked like a lobulated cyst, filled with pus. The ureter of this kidney was very much enlarged. The opposite gland was also in a diseased condition, exhibiting the appearance usually seen in Bright's disease. The most remarkable feature in connection with this case was the reported absence, during life, of any prominent symptoms which would lead to the suspicion of renal disease. The diagnosis made on his first admission to the hospital, was of intermittent fever. From this he was apparently convalescent, and was about to be discharged, when he rapidly sank into a typhoid condition, and died. We did not ascertain whether special attention had been paid to the investigation of the physical and chemical condition of the urine; and the absence of any satisfactory information concerning the history of the case previous to his admission, may, probably, have rendered the diagnosis somewhat obscure; but it certainly seems to be remarkable, that such extensive structural alteration should have taken place without corresponding functional derangement.

Specimens were also exhibited of a uterus, from a case of *puerperal peritonitis;* and of tubercular deposit in the lung and glands of an infant.

The Second Avenue cars now run to within a very short distance of the Red House, and without any stoppage or changing, which makes the trip much more pleasant than it formerly was. They travel, too, at a quicker pace, which enables the visitor to calculate his time with greater nicety.

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PART V.—EDITORIAL AND MISCELLANEOUS.

Medical Students in their Winter Quarters.—Since the issue of our last number, some hundreds of medical students have come to town. They have come from down East, and from down South, from out West and from every quarter to which the weather-cock ever points. They have come from cities and from the country—pouring in like the young folks of a farming town to a husking frolic, or the clergy to a general convocation. The city is full of them, and they are full of zeal for their winter's work. They have studied the black boards at the halls of the colleges, and the advertisements in the daily papers to find winter quarters. Some of them have gone into fashionable boarding houses, and will pay handsomely for it before spring. Some of them have fallen upon cheap boarding houses, and will get more experience than good living. Some have had the good fortune to get into private families, where the comforts of a home will be vouchsafed them "for a consideration." We are disposed to congratulate such of them as have found quarters to their mind; and to such as are unfortunate we tender our condolence, and hope they will make the best of it.

It is generally understood that medical students are human, and the frailties of poor humanity they are suspected of sharing even as other men. They are a little peculiar as a class, for the best of reasons—that their employments are peculiar and their time is occupied as that of no others is. See how their days are spent:—

It is hard work in winter to swallow one's cakes and coffee, put on a hurried toilet, and be from the boarding house up to the college by nine o'clock; but that is the hour at which the inexorable gong beats for the morning lecture. As things are generally arranged, four lectures, of an hour each, follow each other in close succession; during which the student's thoughts must not once go out a wool-gathering nor his attention flag, or he loses a point that may spoil the whole lecture for him. Then comes a recess of three hours; but in it is to be taken the walk in the City Hospital,—if he takes, as he should, a Hospital ticket,—his gettings to and from the college, Hospital, and boarding place, and the bolting (it can scarcely be called eating) of a hurried plate of whatever the good landlady is kind enough to provide. From four to six come two additional lectures, and then tea.

Now, says the student, for a little recreation,—a laying off and digestion of the day's ingesta. No such thing for him, if he is disposed to make the most of his opportunities. What good will he get of his anatomy if he only hears its technical terms rehearsed, while the lecturer points at this tissue and that, and demonstrates across the room the position of artery, nerve, or vein? He must enter the dissection room, and see for himself what it is that our strangely compacted bodies are made of. He must himself direct the scalpel along the tissues of the dead body, if he would safely handle it upon the living. He must make himself personally acquainted with every part, if he would competently medicate when the whole is suffering, or recognize how the forces, external and internal, derange the economy or can be diverted from an abnormal to an orderly and healthful action. He ought to spend from eight to ten o'clock every evening in the dissecting room; and *then*, may he "get him to bed?" No; if he would not be led by the nose, by the professor to whom he listens,—if he does not wish to be made a blind follower instead of an intelligent learner, he must read up the topics discussed before he sleeps, in some trusty text-book. And he ought to get a little season for thinking over what he is hearing,—for arranging it, as it were, into orderly shape, and so disposing it that memory will be able to draw it forth when wanted. Truly it is a full programme, and the economical medical student must be a busy man during the lecture season. He could not continue such a course of application throughout the year, of course; for our muscles, after all, are not ribbons of iron, nor the toughest nerves made of brass wire. And while the season continues he must sleep some seven hours, or thereabouts; else the brain will be dull, and the intellect that of a fogy, though the eye and the mien and the bearing is that of one who belongs to the order of young physic.

The crowding of so many lectures into a day is not exactly desirable, but it cannot well be helped. Situated as most students are, it is not practicable to spend much more than four or five months at the centres of medical intelligence; and while here they have to adopt somewhat of the anaconda style of feeding—swallowing down an enormous carcase to digest leisurely during the summer months. The adaptability of nature to circumstances is marvellous; and until we all become rich enough to do as we would, we must even do the best we can with our present means.

There is a great deal of nonsense current about over-working. Very few of our young folk know how much they can do, or how much they can bear. And this very arrangement of lectures, cliniques, and hospital attendances, which looks as if it would need half a dozen bodies and as many minds to get through one day's work with well, is the first thing that opens the eyes of students to see how much they can see, hear, learn, and lay to heart in the working hours of the twenty-four. But, then, one thing is certain;—the student, who is all a student, cannot spend many hours in visiting theatres and operas, or looking up the lions of the city. He must consent to learn little of fashion, and see little of what the riotous and objectless call life. Medicine being his wife, he must have no mistresses dividing his love. Even literature, excellent as she is, must consent to be a sort of distant cousin only, not often called on, though most ardently admired. One thing at a time, and all attention to that while it is up, will do wonders. The pleasantest task should come last at night, that bad dreams may not be gendered to suck the nourishment out of sleep. Then the changed employments and the rest of the Sabbath, being carefully observed, will pour a balm over the bruised energies of the week past, and fit him for a new week of harder labor and more satisfying toil. ‡‡

OPENING OF THE SESSIONS AT THE MEDICAL COLLEGES.—We judge from all that we see, that there is an unusually large number of medical students—and especially of Southern students—in this city the present season. It would be premature to specify the number matriculated at the three schools at this time; but a few days having elapsed since the respective courses commenced. We think we may claim that some part, at least, of the increased patronage alluded to, may be attributed to the information in respect to the vast resources of New York for medical purposes, which has been imparted to the profession throughout this country by the Hospital Reports, and the historical sketches of its hospitals, which have appeared in the pages of the MONTHLY.

The Introductory Lecture, at *The College of Physicians and Surgeons*, was delivered on Monday evening, October 16th, by Dr. Torrey, Prof. of Chemistry in this College; but we have not been able to obtain any report of his address.

The Introductory address at the *University* was delivered on the evening of Monday, Oct. 16th, by Prof. Draper, as usual; and it was also, as usual, an able and interesting performance. We copy the following report of his eulogy on Dr. Swett from the New York *Tribune*, of the 18th:

Since I have thus alluded to the loss the University has sustained by the decease of Professor Swett, I may be permitted to add here a few particulars of his biography, for your benefit. At an early period, intending to devote himself to the pursuit of our profession, he spared neither pains nor expense to lay a broad and suitable foundation for his future medical career. Graduating with distinction in the medical department of Harvard University, he subsequently visited Europe, and made himself familiar with the practice of physic, as taught in those schools. His natural turn of mind enabling him to appreciate whatever is exact, he cultivated with especial attention the processes of physical examination; and on his return home soon distinguished himself by the skill he had attained in those modes of diagnosis. A constantly extending practice could not divert him from the cultivation of these and kindred studies, and after a while the fruits of his labor appeared in the work which he published on the Diseases of the Chest. For twelve years the New York Hospital furnished him a field for the exercise of his professional skill; and by his appointment in the University, as Professor of the Practice of Medicine, many of you had an opportunity of profiting at once by his precept and example—an example, than which I can offer you none better suited in your own career—an example, which, if you follow, you will be enabled to occupy that position of responsibility, public and private, to which I have been referring, and which will lead you to honor and distinction.

Professor Swett's connection with the University, though brief, was long enough to teach his colleagues his value, and make them lament his loss. They saw, with the profoundest sensation, the rapid decline of his health. With the hand of disease heavily upon him, he still delighted to revert to his University duties. It may be truly said that to the instruction of this class he had consecrated all his powers.

From the closing scene of the life of a friend we may gather an instructive and solemn lesson. Professor Swett retained his faculties unclouded to the last. Expecting the momentous change, he calmly gave instructions for his burial; and as the darkness settled over his eyes, it was to him, as to Milton, only the shadow of the wing of the Almighty—a refuge for his weariness. Accustomed as physicians are to the various circumstances of death, there is perhaps not one which presents a more profound interest than this retention of mental power. With all the functions of organic life deranged, and the body attenuated, exhausted, and ready to die, is it not well that sometimes the spirit should in this way display its innate vigor unimpaired, and assert its separate state? For who that witnesses it in this mortal extremity, whether it be tranquil and prepared for the impending change, or terror-stricken and in affright at the ruin in which it is entangled, can ever after for a moment doubt of its independent life?

Dr. Metcalfe, of this city, succeeds Dr. Swett.

The introductory address, at the New York Medical College, a portion of which we have given elsewhere, was delivered on the evening of the 18th, by Dr. E. H. Parker, Prof. of Physiology and Pathology. It was received with much interest by all who listened to it; the spacious hall being filled by medical students, and the friends of the college, including a large number of ladies.

At the same time, "certificates of honor" were conferred by the President of the Faculty upon about twenty students, for diligence and attention during the summer and fall courses of lectures, which are independent of the winter courses. †††

THE CHOLERA IN NEW YORK.—Our city may now be regarded as almost entirely freed again from this disease. The Franklin street Cholera Hospital, under Dr. Vanderveer, was closed some six weeks ago; and the Mott street Hospital, under the direction of Dr. D. S. Conant, closed on the 23d: it had contained but a single patient during its last week. The present Number contains a paper of much statistical interest, from Dr. Conant, in regard to the results of treatment of patients under his care.

One of the most curious occurrences in medicine was witnessed in the city, during the last fortnight of October. Some six deaths, of persons in comfortable circumstances, or even of wealth, occurred quite suddenly from cholera. Most of them resided in the upper and more healthy portion of the city, where, during the whole summer, but little cholera had existed. As usual, some special cause was looked for, and in one case it was found that oysters had been eaten a few hours previous to the attack. In two others it was found that within twenty-four hours they had constituted a portion of the diet of the individuals. These facts, taken in connection with a rumor of the unhealthiness of oysters in some of the southern waters, created a wonderful panic, properly enough styled by a city paper, "The oyster epidemic," which prevailed to so great an extent as, for a short time, to put an almost entire stop to the trade in this shell-fish. A little careful examination, however, showed conclusively that in some cases the oysters had been taken as a simple diet for one suffering under diarrhœa, while in others they had constituted only a portion of a full meal. Of course the panic soon subsided; but it is quite curious that so much terror should have been excited by these few cases, when, at the same time, thousands of other persons had been indulging in the same diet with perfect impunity.

TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.—We have had the pleasure of looking over a portion of the sheets of the forthcoming volume of this publication. It is with much pleasure that we learn that the last proof-sheet has been read, and that the binders have made some progress with their portion of the labor. It is probable that the work will be distributed to subscribers before our next issue, and that in a style which, as to printing, and binding too, will compare favorably with the numbers previously received, at least out of Philadelphia.

A NOVELTY IN PRACTICE. *Ascites. Paracentesis abdominis. Admission of Air to the Peritoneal Cavity. Radical Cure.*—Mrs. —— was the subject of a premature labor, which was followed by peritonitis, succeeded by general dropsy. The lower extremities became œdematous, fluid collected rapidly in the abdominal cavity, and there was evident effusion in the lower lobes of both lungs. The case was complicated by much enlargement and induration of the liver and displacement of the heart. The patient was subjected to a severe course of therapeutic treatment, which had the effect of relieving the lungs; but the accumulation in the abdomen was so great as to render necessary its evacuation by operation; this was repeated seven times within thirteen weeks, the quantity of fluid withdrawn varying from twenty-four to sixteen pints, at each operation. Dr. Henry A. Hartt, of this city, under whose care the patient was treated, determined to effect, if possible, the arrest of the secretion by other means than the administration of medicine, having tried numerous remedies with unsatisfactory results. Accordingly, after the last operation he inserted a curved canula, about an inch and a half long, in the puncture made by the trochar, which was retained *in situ* by an elastic band. This canula was worn for three days, when it was withdrawn; and subsequently, for five weeks successively, he introduced every day, an ordinary female catheter for an inch and a half, permitting free access of air to the cavity. These proceedings produced inflammatory action of a subacute character, which readily yielded to mild treatment.

There has been no accumulation of fluid since the introduction of the canula, sixteen weeks ago, nor has there been any unpleasant constitutional disturbance; on the contrary, the patient has been relieved from the dyspnœa and other attendant symptoms of the dropsy, and her general health seems to be much improved. There was some thickening of the abdominal walls, in the lower portion of which an abscess formed; this was opened, discharged freely, and is now healed. She is still under treatment for the hepatic disease.

Dr. Hartt intends to publish a detailed account of the case. It possesses much interest, from the success of the experiment to arrest the ascites upon the principle of the radical cure in hydrocele. It was a bold attempt, and would seem to justify the parallel practice recommended and adopted by Dr. Bowditch in the case of the pleural cavity, and the ovarian cyst by Dr. Simpson, of Edinburgh. ‡

Death of Valentine Mott, Junior, M. D.—Among the victims of this season's pestilence in New Orleans, we deeply regret to find recorded the name of this gentleman. As the son of our foremost American surgeon, he inherited a great name, and with it, great responsibilities. It was his chief merit that he never lost sight of them. He graduated in 18—, from the New York University, and remained for several years his father's faithful and earnest companion in the prosecution of professional duty. Thus matured by the best of culture, Dr. Mott visited Europe, where, in the progress of events and aided by his own merit, he became, during the brief struggle of 1848, the Chief of the Surgical Staff of the Sicilian patriot forces. Shortly after his return to his native land, he received the appointment of Professor of Surgery in one of the Baltimore colleges. We next find him in California, where conspicuous success rewarded his industry and talents. He was on his way to visit the home of his early youth when death overtook him, in the thirty-third year of his age. Possessed of lively and active sympathies, Dr. Mott had many friends, in whose memory he survives with love and honor.

C.

Dentistry.—We have all learned to laugh benignly over the quips and jests directed against us as a profession, in relation to the combination of the two *trades* in one individual. The barber-surgeon of some one-hundred years ago, was, in his own way, a useful man and good appendage to the scientific *pure* who never condescended to the performance of the kindred operations of bleeding and tooth-drawing. Things have altered strangely since then; shaving has become a specialty, and so has tooth-drawing; but in addition to the extraction of those most useful but troublesome bones, the insertion of them, the supplying that *hiatus valde deflectus*, so unbecoming to the human face divine, has also become a specialty, and one requiring much ingenuity, great mechanical skill, and, as it is practised now-a-days, a fair share of chemical knowledge. We have been incited to this notice of the subject, in consequence of lately enjoying the opportunity of seeing the process, and its results, employed by Dr. Allen, of Bond-street, and his skilful assistant, Mr. Putman, of manufacturing sets of artificial teeth, very natural in their appearance, and certainly more indestructible in their nature than the natural ones. The merit of the mode of procedure adopted by these gentlemen consists in the discovery of materials and their proportional quantities, which, when fused, form a hard, porcelain cement, which is susceptible of the nicest moulding and coloring, and which unites the tooth to the plate, itself representing the gum in a very perfect manner, the whole having the appearance of one solid mass. A platinum plate is used instead of gold, as the latter would not bear the high temperature necessary for incorporating the several parts, and hardening the cement. When nicely put together, and well colored, these sets of teeth are certainly remarkably handsome, and are calculated to add a grace to many a mouth. We presume we should infringe a patent-right were we to attempt a description of the mode of preparing this elegant and complete article, otherwise we should like to give a description of the materials and method employed.

While on this subject, we will take the liberty of suggesting to our *dental* friends, that it is exceedingly absurd to see those who confine themselves to the mechanical part of the business, styling themselves "doctor;" as well might the maker of an artificial leg adopt the title. The dentist, properly so called, who devotes his attention to the diseases of the teeth and gums, may, with some foundation for the pretension, designate himself "surgeon;"—a custom which prevails in Great Britain, where the surgeon-dentist is almost invariably a licentiate of one of the colleges of surgeons: "Mr." is the distinguishing appellative. There are, indeed, many surgeons, who, be it remarked, are also graduates in medicine, and hold the doctorate legitimately, who disdain to use the honorary prefix—calling themselves simply, "Mr. Bell," "Mr. Guthrie," until they get some other distinguished prefix, the baronetcy, to wit, and then they become merged with the other "Sirs;" but while seeking and gaining their reputation, they sink the "doctor" altogether. It is, in fact, a purely academical honorary title, to which none have any right but those who have obtained it by a prescribed course of study and sufficient examination. It is not, usually speaking, *ad practicandum*, and therefore is valueless, in this point of view, to the surgeon. We can easily conceive the licentiates of the Baltimore College of Dentistry being proud of the title bestowed upon them, "D. D. S.;" but that a mere mechanic, useful and honorable as his employment may be, should assume the style of "Doctor of Medicine," is a little too ridiculous. Come, gentlemen, drop the two capitals; let the world see that you are not ashamed of your business, and you will gain as much credit for good sense as you do for skill and science. ‡

ITEMS OF FOREIGN MEDICAL NEWS.—*Earl Stanhope* publishes the substance of ten addresses that he delivered before the Medico-Botanical Society in London, under the title of "A Discourse on Medical Botany." The earl's effort is exceedingly creditable, though, in some points, he manifests a disposition to reach a conclusion from very indifferent premises.

Dr. *John Grove* has issued a second edition of his "Sulphur as a Remedy in Cholera and Diarrhœa." The book is philosophical and ably written, and is not so flush of theories as the other volume from the pen of this author. He thinks much better of sulphur than our readers probably do. He gives no reason for its extraordinary success. The following is his mode of preparing and exhibiting the sulphur: He takes four ounces of pure precipitated sulphur, and an equal portion of bicarbonate of soda. These he triturates and combines in a mortar, adding, by degrees, twenty-four ounces of compound spirit of lavender. When this is well mingled, he adds, in like manner, seventy-two ounces of water. Of this mixture the patient takes two teaspoonfuls in a little water, every two, three, or four hours, in simple diarrhœa; but if the case is urgent, every ten minutes or quarter of an hour. In sudden attacks, when the patient is suffering severely, Mr.

Grove adds to the first dose from ten to thirty minums of laudanum, or Battley's Sedative. Mr. Grove does not repudiate other remedies for pressing symptoms.

Heberden Milford has written a three-volume novel, entitled "*The Physician's Tale*"—a pleasant and very romantic story.

Dr. *Wm. Harvey*, Surgeon to the Royal Dispensary for the Diseases of Ears, London, has written a complete and able treatise on "The Ear in Health and Disease, with practical Remarks on the Prevention and Treatment of Deafness." Under the head of *Prognosis* he says, that of 2,500 cases of deafness treated at his Dispensary, 1,000, or two-fifths, proved curable. He protests against the indiscriminate use of the ear-probe, syringe, and catheter, and condemns the excision of the tonsils, as not often necessary.

Medical men in England are discussing the "invariable existence of a premonitory diarrhœa in cholera." The facts and investigations published certainly favor the doctrine; but there is a general feeling that not half facts enough—nay, not a hundredth part of what should be observed have been noted; and, consequently, that to accept the doctrine as settled would do mischief.

Contrary to the policy of the New York papers, the London *Times* during the prevalence of the epidemic cholera, abstained from publishing the particulars of its fatality. Our people are readers, and what would do well enough for Londoners would be poor policy here. The papers of New Orleans tried the same plan, during the late yellow-fever epidemic; and the result was, the most ungrounded rumors of a fatality far beyond what actually existed were current, to the great injury of the city, and the swelling of the panic.

Mr. Finney, a dentist, late of Alexandria, found a stuffed tooth in a mummy, and several teeth in other mummies which bore marks of filing.

The treatment of cholera by castor-oil continues to be the fruitful topic of discussion in the professional and non-professional journals of London. If we read *but one side* we might be easily convinced.

Out of one infamously dirty alley in Naples, cholera destroyed 143 out of 146 inhabitants. The three survivors were removed by the authorities.

The French emperor shows wisdom in promoting, as they deserve it, his medical officers. M. Lauvergne, first Physician in Chief of the Navy, he has promoted to the rank of Officer of the Legion of Honor, and the two surgeons MM. Macret and Lambert, he has appointed Chevaliers of Honor, for their devotion to the sick of cholera, at Toulon.

Some Malays have appeared in Cadiz lately, whose success in *miraculously* curing the cholera has greatly comforted the populace. This is their mode of operating on the cholera patient. They place the person attacked on the back, and uncover the breast and abdomen; then they effect friction in a way which they alone know, and which they continue until they feel beneath their fingers a small round substance, which they force to the centre of the epigastrium, and which they then pinch forcibly, as if to crush it. They retain the substance in the same position until the patient has taken a cup of tea, into which they throw some drops of a liquor prepared by them. An instantaneous cure is effected; and the patient only requires to take a walk in the open air to be completely recovered. The operators affirm that in very rare cases two of the little round substances are found instead of one, and that then the evil is incurable. These miracle-mongers have a theory, that little worms attach themselves to the heart and produce the cholera. They crush them, they say, after coaxing and driving them down into the little round bodies under their fingers. They ask no pay for their services; and the superstitious, including almost the whole city, flock to them in crowds.

There is a great lack of medical men in the armies of the allies. Much complaint is made that none but the thoroughly educated in all departments of medical science are permitted to act as surgeons and assistants, and that hence is the scarcity.

Mr. Spencer Wells' new work on *Gout* has sweet consolation for those afflicted with this aristocratic disease. He says,—"Among the present members of the Houses of Parliament, those who are known to be subject to gout are among the most distinguished for an ancestry rendered illustrious by high thoughts and noble deeds, for their own keen intelligence, for the assistance they have afforded to improvements in arts, science, and agriculture, and for the manner in which they have led the spirit of the age. If it were proper to mention names, I believe I could prove this to be the case; and I never met with a real case of gout, in other classes of the community, in a person not remarkable for mental activity, unless the tendency to gout was clearly inherited. It is perfectly true that butlers, hall-porters, and other individuals in equally easy circumstances, are often subject to gout; but many such persons are the sons of parents who have lived in similar situations, and have received from their progenitors hereditary predisposition. I have seen a great many examples of the rule, and scarcely an exception, that when a person in an inferior station is subject to gout, and one of his parents was not similarly affected, he is a person of superior abilities or attainments." ‡‡

It will be seen by reference to our advertising columns, that Dr. M. Stephenson, of this city, contemplates repeating his lectures on Ophthalmic Surgery this winter—the introductory to which will be delivered in the Fourteenth-st. Medical College, on Thursday, November 9th, at 7½, P. M. Students and the medical profession are respectfully invited to attend.

THE AMERICAN

MEDICAL MONTHLY.

DECEMBER, 1854.

PART I.—ESSAYS, MONOGRAPHS, AND CASES.

Analysis of supposed blood-stains found upon the clothes of Francis Dick, who was executed for the murder of James Young, September 8th, 1854.

By H. G. Carey, M. D., Dayton, Ohio.

Equity and humanity have just grounds for complaint, that science is not more frequently appealed to, in criminal investigations. The Court of Inquest, often of questionable intelligence, selects, from policemen and bystanders, a jury to decide upon the most grave questions involved in medical jurisprudence. The opinion of non-experts is sought, to elucidate whatever occult points may arise in the investigation; but the man of letters is seldom called upon. Fortune, lives, and reputation are often thus sacrificed through ignorance, while science could readily have supplied the only absent link in the chain, coupling the deed with the offender.

The following *analysis* confirmed the *circumstantial evidence*, upon which Francis Dick was convicted of the murder of James Young. It was given in evidence by the State, that on the morning of August 13th, 1853, James Young was murdered, by repeated blows inflicted upon his head, with some heavy, blunt weapon; that Francis Dick had made threats of violence upon the deceased; that he had been seen coming from the direction of the body about the time the murder was committed; that stains, supposed to have been produced by blood, were found upon his apparel; and so much of a confession as led to the discovery of a spade, upon which were spots resembling blood.

The garment placed in my possession by the counsel for the State, to determine the character of certain stains, was woollen, of coarse fabric and blue color. At various points, distributed irregularly over the skirt of the coat, were soiled spots of a dirty, brown color; appearing as though they might have been produced by grease.

These discolored sections were removed from the coat, and successively macerated in water. At the end of three hours, minute, dark brown currents were seen threading their way from the cloth and collecting in the bottom of the vessel. Several ounces of a dark red solution were thus obtained, portions of which were submitted to the action of the following agents:—

First. A small quantity was boiled in a test-tube. By this process, the fluid was rendered turbid, and changed to a drab color. Upon cooling, a muddy, brown precipitate formed, leaving the supernatant liquid colorless.

Second. Nitric acid, on being added to a portion of this solution, destroyed its red color, coagulated the contained albumen, threw down a dark, muddy sediment, and left a light-colored fluid.

Third. Tannin, when added to the above-designated solution, precipitated the red coloring matter and albumen in the form of a light, fleecy sediment, leaving a straw-colored liquid.

Fourth. Upon adding corrosive sublimate to the suspected fluid, the red color was immediately destroyed, the albumen was coagulated, and a muddy precipitate soon followed; leaving the superimposed water clear.

Fifth. After the red color of the solution obtained from the coat had been destroyed by the action of nitric acid, the addition of sulphocyanide of potassium instantly restored a blood-red color.

Sixth. The color of the suspected liquid was not altered by the addition of small quantities of ammonia.

Seventh. The red color was not discharged by the filter, nor changed by vegetable blues.

Eighth. The solution began to decompose on being exposed to the atmosphere in twenty-four hours, evolving an odor of animal decomposition.

The spade was old and the blade highly polished from use. The evening after the murder, and before the instrument was discovered, a light shower of rain had fallen; the drops of which, by remaining in contact with the back of the spade, produced numerous rust-spots. Mingled with and surrounded by these, were other discolorations, differing somewhat in size and shape from the former, being larger and spattered. These latter, were a shade darker in color, and when viewed obliquely, presented a glistening appearance.

I took a fine sponge, boiled it in soap and water, and afterwards washed it thoroughly in hot and cold water. Two sections were then moistened in water, and one was applied to a supposed blood-spot, and the other to a rust-spot. After three hours they were removed, and the fluid pressed from them in different vessels. In each, the color was dirty or brown. Both were filtered. The fluid which had been in contact with the supposed blood-spot, lost a part of its color in passing through the filter; that in contact with the rust-spot, passed through perfectly clear. I tested for albumen, but failed to detect its presence. At a temperature of 100° Fahrenheit, I reduced the fluid from one ounce each, to half a drachm. Then, upon adding corrosive sublimate to that obtained from the supposed blood-spot, it immediately became turbid. A light fleecy precipitate soon formed, leaving the water above, clear. Corrosive sublimate when applied to the rust-water, did not change it in the least.

From the results of the above analysis, I gave it as my opinion, that the stains upon the coat which I examined, had been produced by blood; and that the solubility of the red-colored substance upon the spade in distilled water, producing a solution which answered one of the tests for hæmatin and albumen, furnished presumptive evidence of the presence of blood.

It was alleged by the counsel for the defence, in the primary examination of this case, that the stains upon the coat and spade had been produced by the tomato. To determine the correctness of this assumption, I submitted it to the following tests. I experimented upon the red variety.

First. I sliced a tomato, and macerated it for six hours in water. At the end of this time, the fluid was slightly, if at all, changed in color. Filtering rendered it perfectly clear.

Second. I mashed another tomato, and expressed the juice through a strong linen cloth. This yielded a light red fluid.

Third. Filtering removed the red color of this solution—No. 2; and upon allowing it to remain quiet for a few hours, the coloring matter was also precipitated.

Fourth. This fluid, No. 2, yielded a strong acid reaction.

Fifth. Ammonia changed this fluid, No. 2, to a light yellow.

Sixth. When portions of the expressed juice of the tomato were submitted to the action of heat, nitric acid, corrosive sublimate, and tannic acid, the red coloring matter was precipitated with the contained albumen, and a clear fluid left superimposed.

Seventh. After the red color was destroyed in the fluid No. 2, by nitric acid, it was immediately reproduced by the addition of sulphocyanide of potassium.

Eighth. This fluid, No. 2, decomposed, emitting an odor of vegetable fermentation.

Experiments were also made upon the expressed juices of the currant, cherry, and blackberry, and upon the infusion of madder, logwood, lac, etc.; and in all these, ammonia changed their color to claret or green.

In a medico-legal aspect, the tomato assumed in this case, a new and important relation. To my knowledge, no other analysis than that made by Dr. J. T. Plummer, of Richmond, Indiana, and designed simply to determine the character of the contained acid, had ever been furnished to the world. I first submitted it to maceration, and found that the red coloring matter was insoluble in distilled water. This fact alone, effectually precluded the possibility of deception between tomato and blood; especially if the suspected substance was in the form of a dry stain. After the red coloring matter had been obtained in suspension, by mashing the tomato, it strongly resembled the color of a solution of fresh-drawn blood. I boiled a portion of this fluid—expressed juice—in a test-tube, which changed the color to a light brown, and filled the tube with minute flocculi. These latter, soon formed a muddy precipitate, leaving the water above it perfectly clear. Nitric acid, corrosive sublimate, and tannin, produced similar results.

The presence of albumen in combination with the coloring matter, demonstrated by the results of these last experiments, greatly impairs the value of heat, acids, and corrosive salts, as tests for blood alone.

When the red color of the tomato was destroyed by nitric acid, a red color was restored by the addition of sulphocyanide of potassium. Iron was found to exist only in the parenchyma of the fruit. The presence of this latter constituent, furnished another parallel in elementary composition, between human blood and the tomato. But the prompt action of ammonia in changing the color of the tomato, the insolubility of its red coloring principle in water, and being uniformly separated by the filter, are differences at once apparent to the man of science.

From the above analysis, I was satisfied that the stains upon the coat had not been produced by the tomato. It was equally apparent, that it had no agency in developing the discolorations upon the spade. Citric acid is the acidifying principle of the tomato. When this acid comes in contact with iron or steel, citrate of iron is formed. This salt is soluble in water, producing a rich yellow color. The dirty or brown color of the solutions obtained from the spade, depended upon the presence of foreign substances, chiefly insoluble in water—that from the supposed blood-spots only retaining any part of its original color after being filtered. This I attributed to the existence of hæmatin: 1st, from its solubility in distilled water; 2d, retaining its color after being filtered; and 3d, being destroyed and precipitated with the albumen by corrosive sublimate.

There is no direct chemical test, by which the presence of blood can be determined. The compound nature of this fluid requires that its characteristic elements must be established by distinct reagents. Some of these are equivocal, others are infallible; some are simple, and admit of easy application, others are complex, and require delicate manipulation; some are positive, others are negative; but when all these combined agencies produce their legitimate results, they demonstrate the existence of blood beyond peradventure. Nature, the great master chemist, has not furnished in his vast laboratory any counterfeit for that inimitable animal fluid—the blood. It is unique and unrivalled in its composition. The philosopher may furnish a compound that will deceive human senses, but it will not bear the scrutiny of science.

Medical jurisprudence, thus far, has failed to furnish that concise and comprehensive detail of facts, touching criminal investigations, which the important nature of the subject demands. Those who, from necessity or otherwise, are compelled to perform such labors, find this field comparatively uncultivated. Obstacles of the most perplexing character present themselves at every advancing step; which, to those possessed of the usual facilities for investigation, are often insurmountable. This, added to ingratitude, want of consideration on the part of legal tribunals, and insufficient remuneration, render medico-legal investigations uninviting themes.

It is impossible, from simple inspection, to determine the existence of blood after a few hours. The changes which it undergoes will be greatly influenced by quantity, temperature, and substances with which it comes in contact. If a few drops of blood fall upon linen or other light-colored fabric, in a few moments the fluid portions will be removed by evaporation, leaving a bright, red colored stain; and when viewed obliquely, will present a glistening appearance. In from one to six days, this stain will assume a dark, brown color, and remain in this condition for an indefinite number of years, without undergoing any further change. This will take place much earlier, and the color be more decided—being quite black in some cases, if the blood has fallen upon wood, plaster, or other solid substance. After blood-stains have once undergone this alteration in color, there is no possible means of ascertaining from them, even by an approximation, their age.

When blood comes in contact with red or dark colored substances, the questionable value attached to color as a test will be wanting. The change produced depends much upon the shade of the article receiving it. In all cases, when the fibres of the cloth have been saturated with blood, the texture will be stiffened upon drying.

The above appearances and changes are those which blood presents and undergoes when uninfluenced by the presence of foreign substances mingled with it. They, however, may be varied infinitely, by circumstances incident to the occasion producing the stains, and which must influence the mind of the medical jurist accordingly. The alteration which blood undergoes, and the great variety of means by which it is capable of being influenced after it passes from the body, are but mere instances, which render that class of testimony, based upon color alone, the most equivocal and devoid of confidence in criminal investigations.

There are two classes of red discolorations which are liable to be confounded with blood-stains, viz. those that are soluble in water, and those that are not. To the latter, belong red dyes and paints, iron moulds, etc. There is but one circumstance which is calculated to mislead the chemist, even temporarily. Blood-stains may be rendered insoluble in water by heat, of a temperature sufficiently high to coagulate the albumen. In this case, they are dissolved in boiling caustic potash, producing a green-colored solution. Tomato belongs to the insoluble class of substances. Its distinguishing characteristics have been referred to in another place.

Among the soluble stains that are liable to be mistaken for blood, those produced by the red fruits, such as the currant, cherry, blackberry, mulberry, etc., are the most common. The petals of certain flowers, and solutions of logwood, Brazil wood, madder, lac, etc., are also capable of producing discolorations that are deceptive in appearance.

The red color of no one of the above substances, when in solution, is affected by heat. They, however, are all changed to a crimson or olive green by ammonia. These simple tests are of themselves conclusive, and entitled to the utmost confidence. It is barely possible, that mordants or chemical agents may be so combined with these solutions as to prevent or counteract the operation of ammonia upon their red coloring principle. There are, however, so many chances against this, that it scarcely amounts to a possibility. M. Raspail says, that having for some years past performed numerous experiments, by mixing animal albumen or human serum with the red coloring matter of cochineal, madder, and lac, and neutralizing the effect of the alkali contained in the serum by acetic acid, I feel justified in stating, that in no respect whatever, except in regard to color, can such mixtures be confounded with blood. These red-colored liquids may deceive those who depend upon color alone; and herein is the absolute necessity of placing the investigations of such subjects in the hands of professional persons alone.

In making an analysis of any suspected stain, the first process consists in dissolving it in distilled water. So important are the evidences to be drawn from the peculiar manner in which blood unites with water, that were a suspected fluid furnished me for analysis, I would moisten a piece of clean linen in it, and allow the same to dry, in order to determine the action of water upon it, in forming a solution. If the stain be upon a manufactured fabric, sections of it must be removed and suspended in a test tube, containing pure water. From one to three hours—the length of time depending upon the age of the stain and the texture of the cloth—minute tortuous currents, of a dark red color, will be seen threading their way from the discolored cloth, and collecting in the bottom of the tube. If the fluid is permitted to remain quiet, the blood will be entirely dissolved and transferred to the bottom, without perceptibly reddening any portion of the water through which it has passed. This process may be repeated until the requisite amount for analytical purposes has been obtained. The clear portions may then be decanted or drawn off by the syphon.

When any considerable amount of dirt or other soluble colored substance is present in the fabric containing the blood, the fluid in the upper portion and adjacent to the cloth, will be darkened or rendered turbid, leaving an intermediate clear stratum of water between this discoloration and the blood below. Unless in large quantities, the above impurities will collect upon the fibres of the cloth, or slowly fall to the bottom, marring the whole column of fluid through which they pass. Not so, however, with blood; when dissolved in virtue of its specific gravity, it is rapidly precipitated in beautiful spiral currents, peculiar to this fluid alone.

Blood-stains upon weapons, furniture, and other solid materials, are subject to all the changes in color that have been detailed in connection with articles of clothing. There is this difference, the globules and red coloring matter of the blood, are retained upon the surface, giving a darker tinge to the discoloration from the beginning; while upon cloth, they permeate the texture, and assume a dark color, only after the lapse of considerable time.

When a stream of blood is projected against a wall finished with white paint or plaster, the more gross portions will run off, leaving an irregular, nodulated stain of a light arterial color, which will not materially darken as long as the coloring substance upon which it falls, remains white. The lower end, or some portion of the stain, will usually be terminated by a drop or few globules of blood, which will be sufficient to produce a dark brown nodule upon drying, and will be perceptibly elevated above the surrounding surface. These appearances are peculiar to blood.

A sponge moistened in water, is the most convenient means by which blood-stains upon weapons, floor, wall, or furniture, can be transferred to the test-tube for analysis. One of fine texture is preferable. After having thoroughly cleansed it from all impurities soluble in water, a thin section of sufficient dimensions to cover the stain, must be saturated in water and applied to the suspected blood-spot. In order to expedite the dissolving process, slight pressure may be applied, which will force the water into the margins of the sponge, and bring it more perfectly in contact with the stain. The sponge should be thin as possible, or it will contain more water within its meshes than is desirable, or will be colored by a small amount of blood. In from one to four hours—the length of time depending upon the age of the discoloration—upon removing the sponge, the lower surface will be found of a dark red color, the latter depending upon the coloring matter which it has taken up from the weapon or other article bearing the stain. The contained water when pressed from the sponge, will be of a light or dark red color, if the discoloration depended upon the existence of blood.

Blood dissolved in water undergoes changes as remarkable and as important to be observed, as when it falls upon apparel or articles of furniture. If the weather be hot, or the solution is exposed to a temperature below 160° Fahrenheit, the albumen and blood globules will rapidly undergo decomposition, evolving an odor peculiar to this process. With this decay of the animal ingredients of the blood, the intensity of the color will decrease, *pari passu.* This diminution of color is first perceptible in the upper strata of the fluid, and as it progresses downwards, the lower portions become more consistent and darker. As decomposition advances, the color of the fluid will assume a greenish hue, and at length wholly disappear; at which time a dark, slimy sediment will be found plastered over the bottom of the vessel containing the fluid.

The length of time that will be required to complete the above process depends mainly upon the temperature to which the solution is exposed, varying from ten days to two months. As long as the solution retains any of its coloring matter, albumen and iron may be detected by their appropriate tests. But the results of these reagents will be less striking as the color disappears, until it is entirely gone, when they cease to produce any perceptible results on being added to the decanted fluid.

The precipitate formed by the decomposition of blood, is a dirty, brown, slimy mass, miscible, but not soluble in water. When briskly agitated with this latter fluid in a test-tube, the precipitate breaks into small, detached fragments, which speedily fall to the bottom as the fluid becomes quiet. This precipitate abounds in iron, and may be detected by the sulphocyanide of potassium, after converting the former into a free salt.

It is of the utmost importance to know the variable results which will flow from the action of the same reagents, when applied to blood in different states of dilution. Most of the reliable tests for blood utterly fail to produce the results attributed to them by authors upon medical jurisprudence, when applied to it in an undiluted state. And this remark is equally true of others, when added to blood diluted by many times its volume of water. Nitric acid dropped upon fresh-drawn blood, will convert it into a black, semi-solid mass. Heat will also change it to a soft solid, of a dark brown color. Corrosive sublimate and tannin, when added to blood diluted with ten or fifteen times its volume of water, will render the whole of a light brown color, and double its former consistence. Tests applied to blood in the above condition, for iron, will fail.

It is seldom that the analytic chemist will be troubled with these difficulties; yet they are not beyond the range of possibility. The legitimate effects of the usual chemical reagents are not uniform until blood is diluted with several hundred times its volume of water. One drop of blood will impart perceptible color to forty ounces of water. At any point between these extremes, the constituent elements of blood can be determined with great certainty. The affinity which exists between certain agents and albumen is so great that the presence of the latter can be rendered perceptible to the naked eye in a solution of blood, long after all traces of color have disappeared by dilution. This is true, so far as I know, only of corrosive sublimate and tannin.

In making an analysis to determine the existence of blood, we seek to demonstrate the presence of *hœmatin*, *albumen*, and *iron.* Fibrin is so nearly allied in composition to coagulated albumen and gluten, that it is difficult to establish the difference between them by chemical reagents. The salines, oils, and extractive matters of the blood, are found profusely distributed throughout nature, and are therefore unimportant.

Hœmatin is peculiar to the coloring matter of blood, and when its presence is susceptible of clear demonstration, it is unequivocal, and of more importance as evidence of the existence of blood than all the other constituents combined. Water is its appropriate menstruum, uniting with it more readily than any other known fluid. Albumen is one of the chief constituents of blood, and exercises an important influence in the analysis. Though abounding in many vegetable and animal substances combined with red coloring matter, iron, when associated with hæmatosin, furnishes additional evidence of the existence of blood. It is one of the most indestructible elements of this fluid, and some physiologists refer the red coloring entirely to the presence of the peroxide of iron. But this latter may be removed from the blood by strong chemical agents, that unite readily with it, leaving a dark red or brown principle, to which the name of *hœmatin* has been given.

The test for this substance, *hœmatin*, is negative, and of the most unequivocal character. When ammonia, in small quantities, is added to a solution of blood, the color is not changed; but if the former is concentrated or combined in large amounts, the color will be darkened. The great value of this negative result, is based upon the principle, that all known red coloring substances which are soluble in water, are changed to crimson, green, or yellow, by the action of the above-named alkali.

Heat is one of the usual tests for blood. The promptness with which a solution of the latter is changed by boiling, is wholly due to the inherent power possessed by the former, of coagulating albumen. The red coloring principles of blood, hæmatin and iron, are not destroyed by heat, as alleged by some authors upon medical jurisprudence. They are only entangled in the meshes of albumen, as it is coagulated, and precipitated. A want of knowledge of these facts, has occasionally misled. I once saw, during the course of a criminal investigation, a medical witness exhibit a vial of blood, which had been boiled three times, without destroying the red coloring matter. He did not pretend to account for the fact, but furnished it to disprove the reliability of heat, as a test for blood.

When the albumen has been dissolved out of a coagulum, or is absent from a solution of blood from any other cause, and the red coloring matter is mingled with water, no amount of boiling will destroy the red color. So it may be of blood-stains, which have been submitted to maceration more than once. The first process dissolves out the albumen, salines, and some of the red coloring matter. The subsequent ones, will take up an additional amount of the coloring principle, but the solution will not contain enough albumen to precipitate the coloring matter.

Nitric acid, when added to a dilute solution of blood, immediately changes its color to a dirty brown. After a few moments, a dirty precipitate forms—the amount depending upon the quantity of albumen and impurities that may have been suspended in the solution—leaving a colorless liquid superimposed.

Corrosive sublimate and tannin are by far the most delicate and reliable tests for albumen. They produce their most signal results, when blood is largely diluted with water. Either of them will disclose to the unassisted eye, the presence of albumen contained in a drop of blood, so much diluted that color is no longer perceptible.

When a solution of the former is added to blood diluted with water, the whole assumes a dark, drab color. The albumen thus coagulated, with the red coloring matter of the blood, will be precipitated in the form of a dirty, impalpable sediment. The supernatant liquid will be colorless. In proportion as the solution of blood is diluted and free from foreign matter, so will the quantity and color of the sediment decrease. If diluted beyond the coloring point, and corrosive sublimate be added in substance, the results will be different. As the crystals dissolve, minute tufts or fibrillæ of coagulated albumen, will be seen leaving their surface, mounted by one or more minute globules of gas; which rise to the top of the water. This process continues, until all the albumen contained in the tube, is coagulated; and instead of being precipitated, collects upon the surface of the water, and presents a white color.

Tannin, on being added to a solution of blood, at first lightens the color.

In a few moments, upon viewing the solution by a transmitted light, it will be found that the whole fluid is occupied by minute flocculi, floating in colorless water. These flocculi, from their fleecy character and specific gravity, do not appear capable of packing very closely, and unless the solution was much diluted, they will occupy the entire space of the original liquid. If this be not the case, the flocculi will separate into two masses, one floating upon the top and the other falling to the bottom, leaving an intermediate column of clear water. The flocculi are of a light red color; and when the tube containing them is briskly agitated, they appear to dissolve; rendering the fluid of a delicate pink color. As the fluid becomes quiet, it separates into its original constituents.

If tannin is added to blood diluted beyond the point when color ceases to be perceptible, a green appearance is first imparted to the fluid. Soon, the whole mass becomes agitated, resembling water immediately preceding ebullition, motion in the ascending and descending currents being quite rapid. Minute sprangling masses and fibrillæ soon form, and settle upon the bottom, or most depending side of the tube if it stands obliquely.

Sulphocyanide of potassium is the most delicate test known, for any of the persalts of iron. When in solution, their union produces a bright arterial color. Iron, as contained in fresh-drawn blood, requires additional oxygen before the sulphocyanide will take cognizance of its presence. Nitric acid is eminently fitted for this purpose; as it destroys the red color of the blood, while it is converting the iron into a pernitrate. When this is done, by adding a solution of sulphocyanide of potassium, a bright red color will be reproduced. In this experiment, great care should be taken to free the agents used from iron; as the slightest trace present will destroy the value of the test, or deceive the manipulator. There is another source of fallacy. It is this. When a large amount of albumen is contained in the solution, nitric acid, when added, will, on coagulating it, lock up the iron within its meshes, leaving nothing to be acted upon by the cyanide. The iron may, in this case, be liberated, by boiling caustic potash, which must also be free from iron.

There are many other chemical reagents, by which the elements of blood can be recognized; but the above are the most simple and reliable, and sufficiently comprehensive for all practical purposes. When the quantity of blood is very minute and fresh, the microscope will furnish evidence of great value; but in the hands of an inexperienced microscopist, it is a dangerous instrument.

A deep solicitude was naturally felt by every citizen of the community in which he had lived, and especially those who, directly or otherwise, had in any manner been connected either with his conviction or execution, to know the precise circumstances under which Francis Dick killed James

Young and his mother,* and the means by which the deed was accomplished. A few moments before he stepped upon the scaffold, his priestly adviser—a gentleman who had Dick's utmost confidence—by special request, asked him concerning the instrument used in committing the murders. To which he replied, that it was "the spade, and only the spade—the one that appeared against him in court."

On the Pathology and Treatment of Acute Rheumatism. By O. C. Gibbs, M. D., Perry, Ohio.

In the February number of the "Medical Examiner" for 1854, I published a few thoughts upon the treatment of acute rheumatism. The appearance, in this country, of Dr. Fuller's full and able work upon rheumatism, and some of the opinions therein maintained, and, so far as I have observed, critically approved by medical periodical journalists, have induced me again to introduce the subject for additional remark.

A disease so frequently met with, in all latitudes and in every condition of life, often protracting itself for many weeks, and, if not directly fatal in its incipient form, both directly and indirectly so in its cardiac and many other complications, certainly needs no apology when frequently introduced and made the subject of therapeutic comment.

Much has been said by able writers upon the pathology of this affection; but, up to the present time, little is known beyond the vagaries of conjecture. This diversity of pathological opinion has been more than equalled by contrariety of therapeutics; for in but few diseases has there been a greater discrepancy in the modes of treatment proposed and adopted by the most intelligent authors and observing practitioners.

A notice of a few of the more prominent pathological and therapeutic opinions may not be uninteresting in this connection. Dr. James Arthur Wilson, in a lengthy paper, published in the February number of the "London Lancet" for 1845, expresses his belief that rheumatism is essentially an idiopathic fever, and that the determination of inflammation to the joints, etc., is as much a conservative process as is the eruption in rubeola.

A few quotations will give a more faithful expression of his opinions. Thus, he says, "The disorder known as acute rheumatism is, in truth, a well-marked idiopathic fever, always tending, like other fevers of this kind, to limit itself by its own actions within a given period of time." * * * "As the scarlet fever localizes itself especially in the throat, the measles in the mucous lining membrane of the lungs, the epidemic typhus in the cæcum and lower ilium, and the erysipelas fever in the integuments of the head and face, so is the rheumatic fever determined, by special effects of inflammation, to the larger joints of the body and the surrounding articular structures. But the heat, redness, and swelling thus induced, are no more the cause of the constitutional disturbance in acute rheumatism, than the scarlet rash or the small-pox pustule of the fevers that bear their respective names." * * * * "It most resembles the exanthematous fevers; for, like them, it is distinguished by a series of rapid, continuous actions, violent as inflammation, yet harmless, for the most part, in their results. Of this eruptive character there is abundant illustration in the heat of surface, the profuse acid sweats, the erythema, and varied miliary rash, by which the rheumatic fever is specially distinguished. Its action is not more determined to the joints than to the skin." * * * * "The local rheumatic inflammation, like that of small-pox pustule, is exactly limited in space and time, and is protective of the part it occupies. Salutary in its purpose, it is succeeded by an action of repair, measured, rapid, and peculiar in itself." * * * * "The joint-fever of acute rheumatism is likewise a heart-fever." In reference to treatment, he says, "Yet, in the approved treatment of rheumatic fever, though the character of its action be special and inflammatory, the principle of its cure is not antiphlogistic." * * * * "In the treatment of a disorder which is essentially one of action, the best indications are those which its own action affords; and thus, in the lavish sweats of rheumatic fever, we find our warrant for the use of remedies which are determined specially to the skin." * * * * "In absolute power over the fever of acute rheumatism, by the direct control of every symptom, the hot-air bath is superior to all remedial means hitherto employed."

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* In his confession he acknowledged that, in addition to the above two, he had also killed Mrs. Young's husband, three years previous.

In reference to the pathology, it is necessary to say only, that if the disease is essentially one of fever, and the arthritic complication is conservative, or, to use the author's language, "is protective in tendency and purpose, as furthering the great business of excretion," then the fever should in all cases *precede* the local inflammation; the most *favorable* cases should be those accompanied with the *greatest* amount of protective local disease; the worst cases, should be those in which the local conservative process, as in measles, does not "come fairly out," and the cardiac localization should be alike salutary. Unfortunately for this theory, for this attempt to class rheumatism with the eruptive fevers, known facts militate against it. The local inflammation almost always *precedes* the fever, which, in intensity, bears a striking resemblance to the amount of local disease. In a word, the severer the arthritic complication, which is called "protective in tendency and salutary in purpose," the severer, usually, is the fever, and the less amenable to treatment. This fact alone is sufficient to gainsay the theory.

The plan of treatment by diaphoretics is by no means new, having for many years had occasional advocates. To the writer, the treatment seems about as consistent in rheumatism, as the same sweating plan which was for a long time practised in small-pox. If the diaphoresis peculiar to rheumatism, is an indication for the exclusive employment of diaphoretic remedies in the treatment of that disease, then the same remedies should be employed, and should be superlatively efficacious, in the treatment of hectic; for the same indications are an equally *legitimate deduction* from the profuse nocturnal perspiration in that affection. It is very generally conceded, that the sweats peculiar to rheumatism by no means mitigate the local disease, or, appreciably so, the general symptoms; if this be so, it is certainly difficult to see how perspiration, artificially produced, should be more efficacious in a remedial point of view. I know, Dr. Wilson, and Dr. Fuller as well, attempt to refute this general opinion; but, at present, the weight of argument is against them.

Dr. Wilson's opinions have been noticed thus fully, because his therapeutic indications are the same as are deducible from the pathological opinions of most other writers upon this disease. Very many consider a deficiency in the cutaneous excretions to be the exciting cause, and the consequent retention and accumulation of morbid material in the blood, as the principal pathological element in this affection. If this be so, then the hot-air bath and diaphoretics of Dr. Wilson should be the only needed, and the most efficacious of all known remedies. The opinion first expressed by Dr. Prout, and advocated in the late work of Dr. Fuller, forms no exception to this; for, if lactic acid be the "*materies morbi*" in acute rheumatism, then the profuse acid-sweats point to the above-mentioned remedial agents as the sheet-anchor in this disease. But more upon this further on.

In the London Medico-Chirurgical Transactions for 1849, there is a paper from the pen of W. Basham, M. D., on the Pathology and Treatment of Acute Rheumatism. From several analyses of the blood taken from patients laboring under this disease, he finds the fibrine increased to more than double its normal amount; while the salts are deficient, by rather more than one-fifth of their weight in health. This increase of fibrine, accompanied with a deficiency of the saline ingredients in the blood, he looks upon as a therapeutic indication for the exclusive use of the nitrate of potash in the treatment of rheumatic affections. Admitting Dr. Basham's analyses to be correct, and the pathological conditions of the blood, which he discovers, universal in acute rheumatism; these conditions can not be dignified with the title of *chief causes*, or principal pathological elements of that affection; being simply *ordinary phenomena* of the disease.

An excess of fibrine is common to all inflammatory diseases, and a deficiency of saline ingredients in the blood is certainly not peculiar to rheumatic affections. (See William's Pathology, third American edition, p. 107 and 109.) This treatment by nitrate of potassa is by no means new. Dr. Brocklesby was among the first who proposed it, and it has since been largely used and recommended by Drs. Gendren, Solon, Bennet, and others.

The grounds upon which Dr. Basham recommends the nitrate of potash are worthy of a moment's notice. He claims *first*, that it remedies the deficiency of the saline ingredients in the blood, and *second*, that it diminishes the amount of fibrine, and prevents its deposition, by destroying its property of coagulating. I cannot conceive, and he does not explain, how the first can be accomplished by the introduction of a salt which is not a constituent of that fluid in its healthy state. (See Simon's Chemistry, Vol. 1st, p. 232.) Dr. Karl Popp infers, that the administration of nitre diminishes the amount of fibrine in the blood (See Ranking's Abstract, June, 1846); but that inference, I believe, is still wanting in proof. Dr. Blake, of St. Louis, has proven positively that it *does not* prevent the coagulation of the blood; but, on the contrary, when injected into the veins, coagulated it firmly. Of whatever therapeutic value the nitrate of potash may be found possessed, in acute rheumatism, Dr. Basham's theory of its action seems certainly untenable. That it exerts a remedial influence over the disease I am not disposed to deny; but that it is in any way superior to the *same influence* over *other diseases* of an inflammatory character, I have never seen reasons for admitting.

Persevering has been the effort to find the proximate cause of acute rheumatism. Dr. Fuller, in his late work, says upon this point, "It is probable, therefore, as the skin is the peculiar emunctory of lactic acid, that in it we have discovered the actual *materies morbi*." He believes the immediate agent, in developing the phenomena of rheumatism, to be "a morbid matter in the blood, generated in the system as the product of a peculiar form of mal-assimilation—of vicious metamorphic action. This poison it is which excites the fever and produces all the pains and local inflammations which are often found associated in an attack of rheumatism." Dr. Prout was perhaps the first who suggested this view of its pathology, since which it has not lacked for advocates both at home and abroad. Still, the opinion is as hypothetical as when first suggested. Though the favorite offspring of many a foster-parent, it has not yet the power to stand alone. With this view of the nature and essential cause of the disease, Dr. Fuller believes this acid *materies morbi* may be neutralized, "its irritative property probably diminished, and its elimination promoted, by a free exhibition of alkalies and neutral salts." The alkaline plan of treatment was recommended by Dr. Buckler, of Baltimore, in the *American*

Journal of Medical Sciences, for 1842; by Drs. Edwards and Wright, in the *Medical Times*, for 1847; by Drs. Budd and Golding Bird, in the *London Lancet*, for 1851; and other physicians in this country and elsewhere, have administered and advocated the same remedies. Dr. Furnival, in the *London Lancet*, for 1844, recommends alkalies as almost specific in their action, not only in the arthritic inflammation of rheumatic disease, but in its cardiac complications also.

Lactic acid may be "the primary, proximate, or essential cause of the disease;" but wanting proof, as the opinion does, nothing would be lost, I apprehend, in considering the acid character of the cutaneous and renal excretions as one of the *ordinary phenomena* of this affection, rather than dignifying it with the title of essential character and proximate cause. That these excretions are symptomatic, instead of causative, gains support from the fact that they are by no means peculiar to inflammatory rheumatism. If lactic acid be the *materies morbi* of this affection, may not alkalies be given to such an extent as to effectually neutralize it, and thus cut short the local inflammations with the same speed and certainty with which quinine arrests, or rather prevents further paroxysms of the ague?

Alkaline remedies may be important curative agents in this affection, but I opine that it is not necessary that they act directly as antacids; at any rate, I question their specific action, as neutralizers of an acid *materies morbi.*

Until some new light shall be thrown upon the nature of acute rheumatism, I trust nothing will be lost to sound pathology, or a wise and safe therapeutics, in considering the disease one essentially of inflammation; of which the fever and acid sweats are but the ordinary phenomena and sequel, and in the production of which, cold is the chief exciting cause. I know, Dr. Fuller denies to cold any such agency; but, notwithstanding this denial, I opine the medical world will still consider cold the chief external cause of rheumatism, and the retention of normal excretions in the blood an ordinary phenomenon, or at most a secondary cause and sequence of the primary. If this opinion, in reference to the nature and cause of rheumatism, be correct, then it would seem that the ordinary antiphlogistic remedies conjoined with those of a kind calculated to act decidedly upon the excretory organs, favoring thus the elimination from the blood of retained normal excretions, would be those best calculated to subdue the disease. Blood-letting, purgatives, and mercurials, have long enjoyed the reputation of being second to no other remedies in the treatment of inflammatory diseases. And, if to the judicious use of these, diuretics, diaphoretics, and, in certain cases, tonics, be added, it would seem as though all the indications deducible from the nature of the difficulty and the symptoms, were being fulfilled. The treatment adopted by Dr. Chambers, and communicated by Dr. Hope, in its minutiæ, seems so perfectly adapted to meet the indications in this disease, as to be worthy of especial mention. The plan is doubtless familiar to every reader, but its importance will justify a repetition. It consists in a full venesection in the robust (to be omitted in the feeble), to be followed by eight or ten grains of calomel and a grain and a half of opium, every night, succeeded every morning by a strong black dose, sufficient to secure four or five stools. With this treatment is combined, thrice a day, a saline draught, containing from fifteen to twenty minims of the wine of colchicum, and five grains of Dover's powder. The calomel to be omitted when the swelling and pain greatly abate, or the gums become in the least tender. For several years, I have adopted this plan of treatment, and when early commenced with have never seen endo- or peri-cardiac complication, or known a case to protract more than ten days. These fortunate results may have been accidental; but I have tried other plans,—have used the nitrate of potash as recommended by Dr. Basham, and the alkaline carbonates now so highly spoken of by Dr. Fuller, and the results have by no means been as favorable as those given in the statement above. I have used the alkalies for four weeks in a sub-acute case of rheumatism, without benefit, and then put an end to it in a week by the treatment detailed.

Dr. Fuller affirms that the use of mercurials in rheumatism, *invites* cardiac inflammation, and some of his reviewers subscribe to his statement. I am disposed to question the correctness of this statement. The period at which cardiac complications supervene, according to Dr. Budd, varies from the eighth to the twenty-seventh day. Now, in view of this fact, it would seem reasonable to suppose, that if the disease could be almost invariably put an end to *before* the eighth or tenth day, by judicious medication, that such medication would very *materially lessen* cardiac complications. Again, it is admitted that, when endo- or peri-cardiac inflammation supervenes, calomel is the sheet-anchor, and should be given to the extent of producing ptyalism, simultaneous with the production of which the local and general symptoms begin at once to amend. Now, if the existence of rheumatic carditis is incompatible with the mercurial impression, then it is certainly reasonable to suppose that the early induction of this impression, or any considerable approximation towards it, *before the supervention* of cardiac inflammation, would *diminish* rather than increase the frequency of such rheumatic complications.

It may be objected that the treatment proposed by Dr. Chambers, and here recommended, savors too much of empirical routinism. In reply, it may be said, it is not more routinal than is the treatment for most other diseases. In pneumonia, for instance, blood-letting, antimonials, mercurials. are the remedies; in comparison with which all others are inefficient and unsatisfactory. In regular practice, hardly a case occurs of the acute disease, but these remedies, in the whole or in part, are put in full requisition. A sameness of disease would seem to require a sameness of remedies, varied only to meet peculiarities of constitution and severity of attack. Remedies cannot be said to be empirical, unless given irrespective of the indications deducible from the symptoms or pathology of the affection. In inflammatory rheumatism, no known remedies seem better calculated to subdue the inflammation and fever than blood-letting, mercurials, and purgatives. And to excite the liver, bowels, kidneys, and skin, to assist in the process of elimination, mercurials, purgatives, colchicum, nitre, and opium, are the means most worthy of confidence. In asthenic cases, blood-letting is, of course, injudicious; and mercurials, and purgatives, should be administered less energetically, and conjointly with quinine or some other tonic. It is in such cases, I apprehend, that the beneficial effects of alkalies are most conspicuous; acting, perhaps, not as antacids, but similar to and as a mild substitute for mercurials.

In the study and practice of medicine, there is a constant longing for medicines new and more efficacious. In rheumatism, I apprehend the list is already too ample; that more, perhaps, may be gained by a judicious combination and use of those already known and long and successfully administered.

Proceedings of the New York Pathological Society.

Oct. 11th. Dr. *Clark* presented two specimens, said to have been voided from the bladders of two females. They were very complete filiform animals, five or six inches in length, of a dark brown color, having a flattened body, with a head without enlargement, and simply the abrupt termination of the body. The tail is bifurcated, presenting an opening like a serpent's mouth, which the animal has the power of opening and closing at will. One of the specimens was recent, and yet alive, having been kept in water that had been occasionally changed for a month past. The only difference between the specimens consists in their size, one being twice as large as the other, though of the same length. Dr. C. mentioned a third specimen of this character that had been sent to him, and which was said to have been coughed up. He considered water to be the natural element of these animals, and that they were accidentally present in the vessels into which the urine and sputa were discharged. The reasons against considering them to be entozoa were: first, that, he having seen three, no other observer had noticed them; second, their color, which he thought would not probably exist if they had been formed within the body and away from the influence of light; and third, that if made to live in urine, they could not exist in simple water for a month.

Dr. *Isaacs* said he had seen some animals discharged from the skin similar to these specimens, but black.

Dr. *Uhl* presented the stomach of a boy, who, in a scuffle, was wounded by a cheese knife, which entered between the cartilages of the seventh and eighth ribs, a little to the left of the median line. The boy lived but six hours. On the anterior wall of the stomach there were three wounds. There was a wound in the diaphragm, in which a portion of the stomach was strangulated. Blood was found in the cavity of the left pleura, but none in the abdomen.

Dr. *Uhl* presented the aorta of a man killed by a pistol ball. The ball entered between the fifth and sixth ribs on the right side, four inches below the armpit, passed through the aorta and lower lobe of left lung, and lodged in the integuments of the left back, between the sixth and seventh ribs. [A great portion of the deflection in the course of the ball was evidently produced by the force of the current of blood in the aorta carrying the ball downward.—Ed.]

Dr. *Markoe* thought that the established rules as to the comparative size of places of entrance and exit made in gunshot wounds, were incorrect. The case of a boy, now in hospital, was referred to, where one ball had passed through both knees without touching the bone, in which the first wound of entrance was by far the largest of the four. Much, however, depends on the tension of the parts, the character of the tissues, and their proximity to bone.

Dr. *Sewall* exhibited the stomach and heart of a man, aged 65, who had died very suddenly, almost while saying that he was improving in health, and directly after an agreeable conversation with a relative. The symptoms were only generally arrived at. For thirty years he had been an invalid, complaining principally of difficulty of breathing at times, which was referred, now to asthma, and again to disease of the heart. He had been affected with an irregular, capricious appetite, and many indefinite stomachic symptoms, referred in general to dyspepsia. For a year past this latter difficulty had increased upon him, accompanied with occasional vomiting, and frequent diarrhœa. He has, at intervals, vomited considerable blood. For a few weeks past he has been more than ever troubled with dyspnœa, which at times was so severe as to give the sensation of impending dissolution. The feet, hands, and scrotum have been highly anasarcous. Two days before his death he vomited a good deal of blood, and for the last month the diarrhœa has been very considerable. He also suffered from hæmorrhoids.

The postmortem examination was made thirty hours after death. The hands, feet, and scrotum were highly œdematous, and there was considerable effusion into the areolar tissue about the chest. The lungs were healthy, and crepitated everywhere, except in the lower right lobe, which was congested. Frothy serum exuded from the incisions in the upper left lobe. There was about one half-gallon of clear serum in each pleural cavity, but no adhesions in either. The heart is of natural size, and overlaid with fat. Water poured into the aorta, makes its way slowly into the ventricle. The aorta and aortic valves are dotted with atheromatous deposit. The aortic valves are slightly thickened; the mitral valve is healthy. The muscular structure of the heart is flabby, and moderate pressure causes the finger readily to penetrate its substance. The right ventricle was engorged with blood, and its valves are healthy. The liver was firmly adherent to the diaphragm over its right lobe, natural in size, but rather paler than usual. The gall-bladder was empty. The spleen was healthy. The kidneys were natural in size and structure, but of a deep red color; and within the capsule of the left one there was a small abscess, containing four or five drops of thin, dark colored pus. The stomach is of natural size, and contains a small amount of thick, reddish mucus. About the middle of its greater curvature is a mass of soft, pultaceous matter, of a brick-dust dolor, as large as an egg, apparently adherent to the mucous coat, and projecting into its cavity. There is no abrasion or discoloration of the peritoneal surface at the point of attachment of this mass. Placed in water, it separates into a filamentous structure, having a ciliary motion in the fluid, and presenting an appearance like that of exaggerated cilia. The stomach, elsewhere, was healthy. The peritoneal cavity contained perhaps two quarts of clear serum. The omentum was studded with fatty masses, of various sizes, which floated in it. The brain was not examined. The tumor was referred for microscopic examination.

The cause of the sudden death being inquired into, Dr. Clark said there was nothing, in his opinion, revealed by the postmortem examination to account for it, but suggested that it might have occurred from apoplexy. He had cognizance of six cases wherein death had occurred instantaneously as a consequence of a sudden effusion of blood around the medulla oblongata, interrupting the functions of the respiratory nerves. [Is not the condition of the heart itself sufficient to account for the suddenness of the death, without going beyond the postmortem appearances, and that whether it be considered a case of weakened or of fatty heart?—ED.]

Dr. Post exhibited a bone from the external meatus of the ear of a young lady, aged fifteen years. She was first seen by Dr. P. four months ago, and was then complaining of intense pain about the ear, which had existed for many months previously. Deep suppuration about the mastoid process was suspected, over which, and through the periosteum, an incision was made, from which pus freely escaped. Necrosed bone was supposed to exist at the bottom of the wound, and caustic potash was applied to keep it open. The swelling, which had been very great, subsided posteriorly, but increased anteriorly, after the incision. Three weeks ago, being again consulted, the anterior swelling was found greatly enlarged, and a fungus tumor, prominent and very painful, protruding from the old wound. Ether having been given, a free incision was made through the tragus into the external meatus, when two portions of loose bone were found, and the finger could be passed an inch into the meatus. The patient is now doing very well, and will probably be restored to health, though hearing on that side is lost. The facial nerve of that side was paralyzed.

Dr. Dalton exhibited a dog whose spleen he removed eight days ago. The animal is now in good spirits, and eats well. The attention of the Society was called to the appearance of the eyes caused by a white color of the iris.

Dr. Batchelder suggested that this was common in horses, and they were called wall-eyed on account of it.

Oct. 25. *Dr. Clark* exhibited five specimens. The first—the heart and aorta of a woman 73 years old, an inmate of a charitable institution on account of her age and infirmity, who was not known to have any disease till the time of her death. She had complained only of a little pain low down in her side. While engaged in some light work, she suddenly died. A large aneurism of the aorta was found, involving the entire arch, which had burst into the left pleura. The heart was healthy.

The second specimen was a liver and kidney taken from a man who died of pneumonia occurring upon the cachexia of miasmatic fever. He had for a long time been pallid, and was much emaciated. The legs were swollen, and dotted with a bright purpura on his entrance to the hospital. For a week he was treated with tonics and nutritious diet, when the physical signs of pneumonia were observed ; and for eight or ten days he went on hopelessly. Hæmorrhage from the mouth and tongue then occurred, succeeded by epistaxis and discharges from the bowels, and he sank from exhaustion. The colon was half full of dark matter, blood mixed with fœces ; nothing remarkable was found in the lungs. The liver was in a state of fatty degeneration, the left lobe being marbled with light grey spots, presenting that form where the disease commences in some lobules, and then extends to those in the vicinity, leaving some parts untouched. The kidney was a little larger than usual, and contained a moderate amount of fat. Some of its cells were granular, and some filled with fat, inducing the belief that Bright's disease was commencing, though the urine, which was once examined, contained no albumen.

The third specimen was one of apoplexy, occurring in a man sixty years old. He was admitted to the hospital while insensible, and died two days afterward, his history not having been obtained. A large effusion into the substance of the brain was found in the upper and anterior portion of the left hemisphere, and a smaller one in the middle and upper portion of the right lobe. The point of interest in the case was, that while the lesser effusion was in the right hemisphere of the brain, the greatest paralysis was on the left side of the body.

The fourth specimen was a small portion of the superior articulating surface of a tibia. The patient was admitted to the hospital six weeks before the rheumatism, of which he had been complaining for five or six weeks. On the second day of October, it had subsided at every part except the right knee. There the swelling and redness continued, and fluctuation was discovered, the result of a secondary synovitis. Before death, the cause of which was not determined, the swelling subsided, and motion was partly restored. The opposite surfaces of the synovial membrane were found to be everywhere adherent. The membrane was reddened, and about a half-teaspoonful of blood was found. The femur was healthy. A ring of ulceration extended half round the left anterior articulating surface of the tibia. The marks of a former chancre on the penis suggested a syphilitic origin. The mesenteric glands were all more or less enlarged, of a yellowish white color, and had all undergone a peculiar change. A specimen was presented some time ago, where the glands had undergone a species of degeneration akin to that of the waxy liver, and it was thought this might be of the same character. Close examination revealed a very different condition of things. The tubes were found mostly denuded of epithelium, and loaded with fat, which was readily discharged from them. They were overlaid to an extraordinary degree with a fibrous tissue thicker than that naturally belonging to them. None were healthy. In the midst of the glandular tissue oil was abundant. As in the kidney and the liver, this fatty degeneration was associated with a low grade of inflammatory action, producing an excess of the fibrous element of the part.

The fifth specimen was one half of a kidney, having to the eye a healthy appearance. To the touch, however, it was hard and unyielding, and its tissue was uniform. It was taken from a man thirty-three years old, who was admitted to the hospital October 20th, his wife and child having just died of cholera, and being supposed to have the same disease. He was a stout, athletic, well-developed person, and was reported to have been well till four days before. When admitted, he had diarrhœa, three or four stools daily, and vomited occasionally. His legs and hands were very cold. He was weak and drowsy, and it was difficult to fix his attention, he answering questions only in monosyllables. His face was neither flushed nor pale. The pupils were dilated, and unaffected by light. There was no cramp or convulsion. The pulse was 60, and feeble; the capillary circulation everywhere slow. Twenty-four hours after admission, having passed no urine, a catheter was introduced, but no urine was found. Twelve hours later, half a pint was drawn off, which was highly albuminous. The second day after admission, he expectorated continually, and was unable to answer questions. He gradually grew more and more comatose, keeping his eyes wide open, and giving no evidence of any sensation for five hours before death. He died thirty-eight hours after admission, his disease being supposed to be arachnitis. The brain was found to be entirely free from inflammatory effusion, but there was a little venous congestion. The convolutions were flattened, as was supposed, from internal pressure. There was no fluid in the ventricles. On subjecting the kidneys to microscopical examination, three-fourths of the tubes were found to be denuded of epithelium, which was replaced by fat. Not one tube in twelve was healthy. The case was one of uræmia, which so closely imitates arachnitis as to present great difficulties in diagnosis in the early stages of the disease.

A discussion followed upon the impropriety of trusting to the unaided eye alone in postmortem examinations; grave mistakes being alleged to result from this course.

Dr. Metcalfe exhibited five specimens, the first being a portion of the brain of a man of intemperate habits, who died of chronic arachnitis. On the anterior portion of the external lateral surface of the left hemisphere, is a patch of calcification three-fourths of an inch long, three-eighths of an inch wide, and of decided thickness, imbedded in the substance of the brain beneath the arachnoid.

Dr. *Peaslee* asked if true bone was ever developed by any thing else than periosteum, except in those bony organizations found in the uterus and ovaries. The opinion of the members so far as expressed was that it is not. [Mr. Paget's opinion is that it is, and that both in the osteoid and in the osseous growth lacunæ and canalicules may be seen.—Ed.]

The second was a specimen of aneurism of the aorta bursting into the circular fibres of the œsophagus, dissecting between the layers of these fibres, and opening through the gastric peritoneum into the abdominal cavity. It was from a man forty years old, who entered the hospital the middle of September. He died a few minutes after reaching his bed. Nothing could be learned of his history. Forty-eight ounces of blood were found in the abdomen, which came through a rent of the size of a quarter of a dollar in the upper and anterior part of the gastric peritoneum, three inches to the right of the cardiac orifice of the stomach. The opening from the sac was not more than one inch in diameter, situate in its posterior wall opposite the origin of the left subclavian artery. The aorta was thickly studded with patches of atheroma. The heart was of normal size and degenerated by fatty growth.

The third specimen exhibited, for Dr. G. Weber, was a stomach and liver, with a duodenum filled with gall-stones preventing the exit of chyme from the stomach, and causing death by inanition. The specimen was taken from a man fifty-four years old.

The fourth specimen was a larynx exhibiting the condition of that organ in phthisical laryngitis. There was a slight ulcer just below the ventricles.

The fifth specimen, exhibited for Dr. Finnell, was a spleen weighing a little over six pounds, taken from a man thirty-one years old, who had never had any form of miasmatic disease. He had suffered from epistaxis and abdominal dropsy, unconnected with disease of the liver or kidney.

Dr. Elliott presented a specimen of aneurism of the thoracic aorta, from a man forty years old, who entered the hospital September 3d. He then complained of cough, which had existed for only three weeks, with difficulty of breathing and a sense of pressure in the chest. He could lie only on his back. The cough resembled the grunting of hogs. When seen by Dr. E., no pulsation was perceptible in the wrist or ankle, in the brachial or femoral artery. Percussion over the sternum was markedly dull. He died half an hour subsequently, just after returning from the water-closet. There was no rupture or extravasation of blood. The heart was healthy, though filled with blood. The lungs were much congested. Other organs were healthy.

Dr. *Peaslee* called attention to the fact that, in this case—as in almost all cases in which death occurs without rupture of the aneurism—the usual amount of *hypertrophy* of the heart is not found. The usual hypertrophy is desirable, as securing the circulation of the blood through the aneurismal sac, though the friction is increased by the disease. And we may learn from this case the importance of insisting on the strictest rest on the part of the patient, in all cases of aneurism of the aorta in which the usual amount of cardiac hypertrophy is not known to exist.

Dr. Allyn exhibited, for Dr. Van Buren, the genito-urinary organs of a patient operated upon for stone. He was admitted to the hospital Oct. 10th, having been long a sufferer from this affection; and having had an operation performed a year and a half previously, when some calculi were removed. Dr. V. B. operated on the 16th of October, removing fragments of stone. The patient died the same day from prostration. The coats of the bladder were found greatly thickened, and there was a large sac in the prostatic portion of the urethra. Near the opening of the right ureter, a sacculus was discovered, containing a calculus. On the opposite side, near the opening of the left ureter, a second sacculus was found, communicating with a cavity, probably an abscess. The ureters were dilated, and a calculus was found in the right kidney, the pelvis of which was in a state of chronic inflammation. In the left kidney there were indications of inflammation, and at its summit there was a small urinary cyst. In the membranous part of the urethra there were one or more fragments of stone.

Dr. Batchelder asked if there was any way of diagnosticating a sacculated stone, and was answered by the negative.

Dr. Markoe presented a portion of a spleen taken from a German girl, stabbed eight weeks previously. The instrument entered just below the tenth rib on the left side, at a point equidistant from the anterior and posterior median line. Moderate hæmorrhage ensued, but there was no evidence of internal bleeding. A day or two after admission to the hospital, symptoms of peritonitis, mingled with those of hysteria came on, which were controlled by opium, and gradually disappeared. When far advanced in convalescence, fever came on, and was traced to moral causes, following a violent rage; the patient afterward assumed a different aspect. Her countenance had the hue of malarious infection, and this led to the suspicion of spleenic disturbance. Hectic ensued. Pain and tenderness were complained of over the side for a space of six inches up and down, and she rapidly failed. Till within two or three days of death, the lung was unaltered in its physical signs. Pneumonia of the lower lobe was then revealed; purulent matter was expectorated; and the patient died from suffocation.

At the lower part of the lung an abscess of the size of a small orange was discovered, in the track of the wound. Below the diaphragm was a second much larger abscess, connected with the first by a cribriform communication. Imbedded in this cavity lay the spleen, bathed in pus. Its lower part exhibited a fibrinous condition, with a thickened peritoneum. Its upper part was healthy. The connection, if any, that existed between this condition of the spleen and the marked pallor of the countenance, is the important feature of the case, and worthy of a close investigation.

Dr. Macready presented the uterus of an elderly woman, who died of cancer of the lung. There was upon it an appearance of a cicatrix following rupture of the uterus; but Dr. Metcalfe remarked that in a similar case the appearance was produced by an enlarged and atrophied blood-vessel, and it was referred for examination.

Dr. Hutchinson exhibited a portion of the genital organs of an unmarried female, about forty years old, who died of cholera, August 12th. There was entire absence of the uterus, Dr. H. gave a synopsis of thirteen additional cases of a similar character, collected from various journals. In some of these, the uterus may have existed in a rudimentary state.

Dr. Bauer spoke of a well-developed woman in whom no uterus could be detected, on careful examination. There was a small opening near the sternum, from which a serous fluid exuded once a month.

Dr. *Hutchinson* also presented a gall-bladder entirely filled by two gall-stones.

PART II.—REVIEWS AND BIBLIOGRAPHY.

Anatomical and Physiological Observations. By John Struthers, M. D., F. R. C. S. E. Part I. Edinburgh: Sutherland & Knox, 1854. 8vo. pp. 238.

We are indebted to the author for the opportunity of reviewing this interesting series of papers. They have appeared, from time to time, in the Edinburgh Monthly Journal, and have been reissued in their present form by the author, with additions, notes, and emendations.

It would be superfluous to enumerate the titles of all the articles contained in this first part; they will well repay perusal, as they are clearly and logically written, and treat of subjects of equal importance to both physician and surgeon. But there are one or two of them which we desire specially to notice, as possessing some peculiar novelty and value.

The first article is concerning the *supra-condyloid process* of the human humerus. Some of our readers may be familiar with this process—to those who are not the following extracts will convey a clear conception, even without the aid of the diagram which accompanies the author's description:—

> "A few instances have been recorded in which the humeral artery and median nerve continued downwards in a direction towards the internal condyle; above which, in order to gain their usual position in front of the elbow, they passed around a peculiar process, there developed from the humerus, as if for the purpose of affording them protection."
>
> "This singular arrangement has occurred comparatively so often, of late, in the subjects dissected in my rooms, as to induce me to call more particular attention to it, since it is one of some importance to the surgeon, and is interesting, also, from the analogy it presents to the usual arrangement of these parts in certain animals."
>
> "In many animals—amongst the Quadrumana, Rodentia, Edentata, Marsupialia, and more especially the Carnivora—the median nerve and humeral artery pass through an opening in the humerus, which is formed by an arched process crossing obliquely the inner surface of the bone, close above the internal condyle."

In those instances noted and recorded by Tiedemann, Knox, Quain, and this author,—

> "The osseous portion" (or the process in question) "arose at a distance from the internal condyle, varying from an inch and a quarter to two inches and a half, and nearer to the anterior than to the internal border of the humerus. It then curved downwards and inwards, and—in none of the above instances having exceeded three fourths of an inch in length—gave attachment to the ligament, which, stretching in the same direction, joined the line close above the condyle, and thus completed the arch."

This remarkable process has been found, in some instances, in one arm only; in others, in both. It is seen in children and adults—in the male and female subject. It was very readily felt before dissection of the parts, even in the instances in which it was shortest,

> "And the detection of this—in the preliminary examination, in a case where the operation was about to be performed—would, together with the pulsation, and the effect of pressure on the artery or arteries, at once indicate the existence of the variety in question to one who was aware of its occasional occurrence."

In another paper on this subject, which the author justly considers as one of importance, he tells us, that the relation of the process to the surface and borders of the humerus is constant, being always placed on the internal surface, either midway between the internal and anterior borders of the bone, or a little nearer to the latter; and the ligament which completes the arch has to pass downwards and inwards to join the intermuscular septum above the condyle. Behind the process is a groove, not always present, but very frequently observed. The artery does not always accompany the nerve in passing under this arch, and sometimes it is not the main trunk which passes under it, but a large interosseous branch; this is also the case in the lower animals, and has led to the conclusion, in the author's mind, that it is intended, in the latter case particularly, more for protection of the nerve than of the artery. This groove also, just mentioned, does not seem to have any relation to the position of a nerve or artery, nor does it appear to be formed to serve any purpose as a groove, but is the result of the formation of two ridges giving attachment to the intermuscular septum, and to the tendinous origin of the *brachialis anticus*. Mr. Struthers has dissected this process in the cat, the lion, and the ichneumon, in which it is found as a distinct foramen in the humerus, the arch being entirely osseous.

It has frequently occurred to us that those persons engaged in teaching and studying anatomy would confer great benefit on science by carefully noting and *promptly recording* all the varieties of anomalous formation in the several structures, and distribution in the vascular and nervous systems. An accumulation of facts would thus take place, the individual peculiarity of which would, when viewed in numbers, prove fruitful sources of anatomical and physiological inquiry.

In illustration of this, we may cite a curious fact noticed by our author. He says, "There is no separate bone in which the difference between the male and female (or at least the muscular and less muscular) is usually more striking than the humerus. In articulating four pairs of these humeri to each other, I noticed the curious fact, in three of them, that the right is longer than the left. In one pair, male, the difference is a quarter of an inch; in the other two, female, it is as much as half an inch. It would be interesting to ascertain whether the right humerus is generally thus longer than the left.

The next paper which we shall notice at present, is a highly practical one on local blood-letting, being an anatomical inquiry into its mode of action in affections of the internal viscera. In commencing the inquiry, he assumes two points as the groundwork of his argument:—

> "1st. That the relief in local blood-letting is through the blood-vessels or vascular system, and not through nervous agency. 2d. That, as blood can come from one part to another only by blood-vessels, there can be no special relief by local blood-letting, unless the blood-vessels of the one communicate with the blood-vessels of the other."

Then he proceeds to demonstrate that in the case of the abdomen and chest there is no direct or collateral vascular connection between the contained viscera and the walls of those cavities. There is a partial connection only in the case of the anastomosis along the rectum and down to the anus, by which the vessels of the perineum communicate freely with branches of the superior hæmorrhoidal artery and vein. An arrangement which, he states, has led to and justifies the French practice of leeching the perineum to relieve the abdominal viscera. He draws the following conclusion:—

> "It appears, then, that local blood-letting cannot affect the viscera in the abdomen or chest, except through the general circulation; and that, therefore, these blood-lettings are general and not local, according to the ordinary sense in which the term local blood-letting is employed."

In the case of the head, the connection or communication is more complete, especially in the lateral and posterior regions; from which he infers, "that by leeching the scalp, especially behind the ear, the sinuses of the dura mater and veins of the brain may be relieved, and that as directly, though not so rapidly, as by the method of opening the external jugular vein."

He therefore does not include the brain amongst the internal viscera which cannot be specially relieved by local blood-letting, although, at the same time, it is not necessarily so from the mere fact of its lying inside, opposite to where the treatment is applied externally.

The following is a summary of the practical inferences he draws from his investigations on the *modes in which local blood-letting may act*:—

> "1st. By the direct abstraction of blood through the anastomosing vessels between the affected and the bleeding part, and it matters not whether this be by the veins or the communicating arteries; this we may call *draining*. 2d. By lessening the quantity *going to* the affected part, by creating

an increased flow or determination elsewhere. This is the revulsion or derivation of authors, and we may call it *counter-draining*."

He then goes on to show, that in order to obtain the full effect of local blood-letting, it must not be applied too far from the affected part; and discusses the question, whether, with the views he enunciates, the common practice should be altered. This he sustains, and on the following grounds: First, that we cannot be sure of the exact situation and limits of the disease. He thus argues:—

"There is pain, as if in the liver. Is the affection one of the liver itself, or of one of the serous layers of the diaphragm, or of the parietal peritoneum? There is pain as if in the kidney. Is it in the kidney, or in some part of the wall, or in both? We cannot be sure, and therefore we must treat the affection as a regional one—as an affection of, or in, the right hypochondriac region in the one case, and of the lumbar region in the other. If the viscus alone be affected, the blood drawn from over it will, at least, relieve it *as much* as a similar quantity taken from some other part would do; and if the wall also should be affected, or be the entire seat of the disease, the patient, without running the risk of a better practice, has had the benefit of the doubt."

It seems to us that this is rather limiting our power of diagnosis, in the case of the kidney particularly; for in inflammation of this viscus we surely possess other pathognomonic signs besides the local pain. The argument, however, as far as the practice of blood-letting is concerned, remains the same, as a general blood-letting would answer the purpose as well, if we do not give some weight to the effect of general constitutional shock in the latter mode. The advantage of the local method being, as we conceive, the removal of the requisite amount of blood from the system, without the immediate impression on the other organs, and particularly on the nervous centres.

"We can readily understand," says the author, "how experience may have established the superiority of the local blood-letting in affections of the chest and abdomen generally, because we know that in a large number of them the pleura and peritoneum are involved to our certain knowledge."

"With reference to the abdominal and thoracic viscera, in a case in which the practitioner feels assured *that the affection is limited to the organ*, it would appear that it matters not where or how he bleeds, feeling assured, that from whatever part he takes the blood, whether by the leech, the cupping-glass, or the lancet, he will reach the affected organ only by having withdrawn so much blood from the general circulation."

He maintains that the prudent and proper practice still is (on the grounds already stated), "to apply the treatment over the affected part." His general conclusions being,—

"1. Local blood-lettings on the chest and abdomen are truly so, as far as the *wall* is concerned, but can act on the *viscera* only on the principle of general blood-letting.

"2. But that it is proper to continue the local practice, because the wall is often affected along with the viscus, to our certain knowledge, and we are often unable to decide whether the wall is not, in whole or in part, the seat of disease.

"3. And that, therefore, the physician is not at liberty to depart from the local practice, unless he could be certain that the affection was limited to the viscus."

We would also commend the paper on the semilunar valves of the heart as being essentially practical in its bearing, and wish we had room to make a résumé of it also.

Those who are engaged in teaching anatomy and physiology, as well as the student, will gain much by a perusal of these valuable papers—they will suggest a train of inquiry and investigation, even if they do not add to their present stock of knowledge. ‡

Manual of Human Microscopical Anatomy. By A. KÖLLIKER, Professor of Anatomy and Physiology in Würtzburg. Translated by GEO. BUSK, F. R. S., and THOMAS HUXLEY, F. R. S. Edited, with Notes and Additions, by J. DA COSTA, M. D. Illustrated by 313 engravings on wood. Lippincott, Grambo & Co. One vol. octavo, pp. 802.

The first 435 pages of this work have already been noticed in the MONTHLY, though under a different title—"A Manual of Human Histology, &c." * The whole work of Prof. Kölliker has been published by the Sydenham Society, in 2 vols., it having been translated by Drs. Busk and Huxley. The first vol. corresponds to the 435 pages just mentioned of the present work; the latter including both vols. of the Sydenham Society, with notes and additions by Dr. Da Costa. A very important addition by the American editor occurs on the 43d page, where he has given a table for the reduction of Paris lines and millimetres to fractions of an English inch; which alone should be the standard in this country.

We think, also, that the title adopted by Dr. Da Costa is more accurately expressive of the character of the work—except the first 118 pages of the American edition—than that of the author himself. Histology is the *minute* or *microscopical anatomy of the tissues;* while this work, except the part mentioned, is the minute or microscopical anatomy of the *different organs.* It is true that, in some instances, the word "histology" and the phrase "microscopic anatomy" may become nearly convertible terms; yet they are never precisely so. For instance, the histology of muscular fibre and the microscopical anatomy of muscle, are terms nearly allied. And yet they are by no means identical. The histology of muscular fibre merely implies the description, with the aid of the microscope, of the fibre or tissue peculiar to muscle, when isolated from every thing else; the microscopical anatomy of muscle implies all this knowledge, indeed, and also describes all the other elements entering into the structure of a muscle, as the perimysium, the tendon, the vessels, and the nerves; and the relations of the tendon to the muscular tissue, on the one hand, and the bone on the other. In other words still, *histology* merely describes the isolated *tissues; microscopical anatomy* describes the *organs* as they are found, made up of tissues.

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* February Number, p. 117, &c.

Prof. Kölliker entitled the first 118 pages of this work "The General Anatomy of the Tissues." We have before given our reasons for preferring the term "General Histology." * The rest of the work he terms "Special Histology;" and which, in regard to certain subjects treated, is correct, and in respect to others, not so. *Ex. g.* He begins with the skin, and gives its *microscopical anatomy*,—since it has no tissues entering into its structure which are peculiar to it,—and at the same time, most singularly, regards the subcutaneous areolar tissue, or superficial fascia, as a part of the skin itself. Next follow the osseous and muscular system, of both of which he gives the microscopical anatomy, including also the special histology, as each of these includes a tissue not found elsewhere than in bone and muscle respectively.

We therefore consider the present title more appropriate than the author's, as expressing the character of the work as a whole; and the first work expressly on Human Histology, in the English language, is yet to appear. And as histology constitutes the very basis of the now vast and vastly important department of microscopic anatomy, we consider that the time has already arrived when such a work is demanded, and can be appreciated by the medical profession in this country.

It may, however, savor of inconsistency, that while the American editor has, as we think, improved the title by naming the work a "Manual of Microscopical Anatomy," he still retains the author's heading of "Special Histology" on every alternate page, beyond the 118th, of the work before us.

Having previously given expression to our opinions respecting the first 435 pages of this volume, as before explained, we now proceed to an analysis of the remaining portion—the part corresponding to the second volume by the Sydenham Society.

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* *Ut supra*, p. 119.

This portion includes the minute anatomy—

I. Of the digestive organs;
II. Of the respiratory organs;
III. Of the urinary organs;
IV. Of the sexual organs;
V. Of the vascular system;
VI. Of the higher organs of sense.

I. Commencing with the oral cavity, or mouth, the author describes all the different subdivisions of the alimentary canal in succession, and the glands which are associated with these different portions. Then follows an account of the liver, pancreas, and spleen. We notice the following points as in advance of, or in some way differing from, the opinions on the same subjects, which have already been published in this country in the English language, or as deciding mooted questions in histology.

The *mucous membrane* lining the alimentary canal is said by the author to consist, like the skin, of these three layers: (1) Epithelium, (2) the mucous membrane proper, and (3) the *submucous areolar tissue.* He does not admit that a "basement membrane" exists to form a special layer of a mucous membrane, any more than he does of the skin. The submucous areolar tissue of the soft palate contains large masses of fat in it, and upon the tongue the proper mucous membrane (the *corium*, we would call it) is firmly attached by many muscular fibres, extending from it into a white, very solid, and dense, tendinous layer, immediately contiguous with the upper longitudinal muscular fibres, and which Zaglas has described as the *fascia linguæ.*

The *epithelium* of the mouth is of the pavement variety, consisting of many superimposed layers of roundish, polygonal, and more or less flattened cells, the deepest layers being of elongated and larger, and vertically-disposed cells, while the superficial layers are composed of *epithelial plates*, or cells flattened into scales with rounded corners. Though thick, the epithelium of the mouth is very permeable to fluids of very different properties; the more so, however, where, and in proportion as, the layer of the *plates* in particular, is thinner; it also allows the plasma to traverse it, from the blood-vessels into the buccal cavity, without becoming itself detached.

The author gives the most accurate and minute description of the microscopical anatomy of the *tongue*, to be found in our language. His account of the papillæ agrees essentially with that of Todd and Bowman. He, however, adds some account of the mucedinous fungi which constitute the "fur" on the tongue in some diseases attended by great debility. This fungus is probably (as remarked by the American editor) the one named "oidium albicans" by Robin.* This was also discovered by Prof. A. Clark, of this city, as we stated in a former number of the MONTHLY; and where the sulphurous acid was also recommended as destructive of all parasitic vegetation.†

Prof. Kölliker thinks the *microscopic ganglia* discovered by Remak upon the branches of the glosso-pharyngeal and the gustatory nerve, and which the latter believed to be related to the glands of the tongue, are also probably related to its sensation.

We have next a full account of the mucous and the follicular *glands* of the oral cavity. The author finds no muscular fibres in the former, nor in their excretory ducts.

The *follicular* glands include those at the base of the tongue, from the papillæ circumvallatæ to the epiglottis, and the tonsils. A clearer and more definite idea of the structure of the former is given, than has hitherto been done by any author. Both, however, contain, *under* the mucous membrane lining the cavity or cavities visible to the naked eye, "large, completely-closed capsules $\frac{1}{113}$ to $\frac{1}{45}$ inch in diameter, round or elongated in form, presenting a whitish color, and closely resembling the capsules of Peyer's patches, the solitary glands, the vesicles of the spleen, and of the lymphatic glands." While Prof. K. admits that these capsules may excrete a substance into the cavities of the glands without any dehiscence (as no ruptured ones are ever found), and from this the peculiar secretion of the follicular glands may be formed, he thinks, on the whole, that the latter is formed independently of them. At least, a fact analogous to this supposition is, that of the secretion of pus upon mucous membranes which are still *covered by their epithelium* (p. 463).

Prof. K. confirms the statement of M. Bernard, that the secretions of the three pairs of salivary glands vary in their properties. That of the parotid contains no mucus; those of the submaxillary and sublingual gland do contain it. But neither the mucous nor the salivary glands secrete any *formed* products. The "mucus-corpuscles" of authors are products of the mucous membrane of the oral cavity; being "exudative corpuscles, and consequently totally distinct from epithelial cells." He regards their formation as analogous to that of the pus-corpuscles in catarrh, which also very often takes place upon unbroken epithelial surfaces. Hence, they are almost entirely absent in many individuals; while in others, subject to irritation of the mouth, they are very abundant.

In regard to the *teeth*, Prof. K. states that the dentinal *tubuli*, or canals, have special walls, with a thickness rather less than their diameter, connected together by a matrix. The *apparent* walls usually seen in transverse sections of dentine are not really such, but *rings*, resulting from viewing a certain length of the canals in the more or less thick sections,—their undulating course giving the walls a greater apparent thickness than they really possess (p. 472). The "interglobular spaces" of Czermák are particularly described, and shown to be filled, in the natural state, by a substance which dries up in their sections, and thus admits air. The author has never discovered the membrane said by Berzelius and Retzius to exist between the dentine and the enamel. He regards the enamel-fibres as *not* indicating a cellular composition; finds no intermediate substance uniting them together; nor any constantly-existing canals between them, though cavities of various kinds are not unfrequently found in the enamel. He verifies the existence of the membrane lying upon the external surface of the enamel, which was discovered by Mr. Nasmith; and describes it as "a calcified, structureless membrane, $\frac{1}{28125}$ to $\frac{1}{14062}$ inch thick, remarkable for its resistance to chemical agents (even to boiling, concentrated hydrochloric, sulphuric, and nitric acids)," and hence admirably adapted to protect the crown of the tooth. He considers that the "cementum" is developed from "that portion of the dental sac which lies between the pulp and the enamel organ." We still think there are stronger reasons for the belief that it is developed from the periosteum inclosing the tooth within the alveoli.

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* Histoire naturelle des Vegetaux parasites.

† March No., p. 239.

In regard to the *pharynx* the author points out the difference, in regard to the epithelium, between the upper (respiratory) and the lower portion; and imparts much valuable instruction in the following passage: "Follicular glands, simple as well as compound, analogous to the tonsils, are met with in the vault of the *pharynx*, where the mucous membrane is closely attached to the base of the skull. Here a glandular mass, stretching from one Eustachian opening to the other, and from one to four lines thick, may constantly be met with. It is, upon the whole, smaller; but otherwise its structure resembles, in all essential respects, that of the tonsils" (p. 500). This glandular mass is often almost the exclusive seat of catarrh in the head (so called by patients); and which we have often succeeded in promptly removing by applications of a caustic solution to the exact seat of the disease.

Contrary to the general opinion that the muscular layer of the œsophagus consists of smooth or non-striated muscular fibre, Prof. K. finds that the transversely-striated fibre alone is found in the upper third of this tube, and until it enters the thorax. Then smooth fibres (non-striated), like those of the intestine, make their appearance, first in the circular, and subsequently in the longitudinal layer; the isolated, striated fibres are met with, according to Ficinus, even down to the cardia.

In regard to the *stomach*, the *small intestine*, and the *large intestine*, we find nothing particularly interesting to those already familiar with the work of Drs. Todd & Bowman.

In regard to an interesting point in the minute anatomy of the *liver*, a hiatus still exists. We allude to the question as to the relation of the terminal subdivisions of the hepatic duct to the cells of the liver. Until the question can be finally decided, Prof. K. hazards the opinion that the "finest ducts impinge directly upon the columns of the network of hepatic cells, so that their cavity is terminated by hepatic cells." Thus, at least, the bile secreted by the cells may easily find its way from the ruptured cells into the hepatic ducts.

But little is said of the structure of the *pancreas;* but the deficiency is supplied in respect to the *spleen.* Prof. K.'s discoveries in regard to the structure of this organ are already well known in this country through the Cyclopedia of Anatomy and Physiology, and need not be reproduced here.

But we have already exhausted our space, though we have called particular attention thus far to only about one half of that part of the volume which we had not previously analyzed.

It is sufficient, however, to say of the remaining portion, that the subjects remaining are treated in a similar discriminating, though less prolix manner; and that the work, as a whole, entitles the author to the highest rank as a microscopic anatomist and histologist.

The very profundity and extent of the work, however, unfits it for a text-book for the use of medical students; but we may now say of the whole, as we formerly remarked of the first volume, that we "cordially recommend it to all teachers of anatomy and physiology, and to all who would become accomplished anatomists and physiologists."

The notes of the American editor have, moreover, somewhat enhanced the value of the original work; they being at the same time also not very numerous, and generally possessing the merit of brevity. The woodcuts are the same used in the publication of the original German edition.

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Inquest on the Death of Agnes E. Lottimer, before George C. Ball, Coroner, Brooklyn, N. Y. New York: Baker, Godwin & Co.

Being of the number of those who never despair of the results of a conflict between truth and falsehood, we rejoice at the appearance of this pamphlet. It contains a full and fair report of the evidence given in an inquest held on the body of a little girl, who, after having been under the care of a homœopathic doctor about two months for an attack of fever and ague, was, to his great surprise, seized, first with convulsions, then with hæmorrhage from the lungs, which last proved fatal in a few hours. This occurred at a time when the parents were assured by the doctor that their child was getting well. The evidence most clearly and unequivocally establishes that this child fell a victim to an attack of intermittent fever of no great severity, and which, humanly speaking, *could have proved fatal* only by being allowed to run its course without any interference whatever. Surely, if any thing can prove the utter inefficiency and futility of the homœopathic practice, this will do it. Here is a child, in the highest health, attacked by a disease, hundreds of cases of which are cured, every summer, in every part of our country, by physicians, and by the people themselves, with a dose of castor-oil and a few grains of quinine; yet it runs on two months, and then proves fatal; and a postmortem examination establishes beyond the possibility of doubt or cavil, that the death was entirely attributable to the fever and to those congestions which every decently educated physician knows will always occur when intermittent fever is allowed to run its course unobstructed for weeks and months. The curability of simple intermittent fever by quinine is a thing so entirely familiar to every intelligent person, in and out of the profession, that we do not doubt but this utter failure of homœopathy will open the eyes of many who have been deluded by the pretensions of these quacks. It cannot fail also to shock the moral sense of the people to find a doctor to whom the powers of quinine are familiar, allowing his patient to suffer week after week, and finally to die, without giving a trial to that mode of treatment which the experience of two hundred and fifty years has proved to be effectual?

And why is not this time-honored remedy given? It was not according to his system, and the system must be supported, let what will happen to the poor patient.

But the value of this Report does not depend entirely, nor, indeed, in our view mainly, on the proofs with which its pages abound, of the utter inefficiency of homœopathic remedies; the exposure which the quacks made of their own stupendous ignorance is even more likely to aid in the good work of bringing their system into the contempt it so richly deserves. Dr. P. P. Wells, the person who attended Agnes Lottimer, being asked what was the probable source of the blood (about two pints) that burst from the mouth and nose of the poor girl a few hours before she died, said, "The hæmorrhage might have come from rupture of the longitudinal sinus, coming through the ethmoid plate." Next day, the doctor was, we believe at his own request, recalled, and as though desirous of elaborating his blunder, and stereotyping his ignorance, he said, "The blood, if proceeding from a rupture of the longitudinal sinus, might escape through the cribriform plate of the ethmoid bone into the nasal cavities. This only in case of softening of the brain *and its membranes.* The brain and *its membranes being softened*, I see no difficulty in a certain amount of pressure forcing the blood through the opening in that bone." We do not believe that this stupendous blunder can be paralleled in the annals of professional ignorance. Nay, we doubt whether in their pictures of Sangrados or mock doctors, Le Sage or Moliere ever imagined ignorance so extravagant.* After this it will excite no surprise to hear this learned pundit speak of mumps without any pain, swelling, or other affection of the parotid gland, and of the translation of this mumps first to the membranes of the brain, and then to the lungs. For further displays of Dr. P. P. Wells, we refer our readers to his evidence *passim.* But another taste of his quality was afforded by his conduct after one of the adjournments of the inquest. Professors Parker and Gilman had been examined as to the hæmorrhage from the longitudinal sinus through the ethmoid plate, and, of course, spoke of its impossibility, though they did not characterize as it deserved the ignorance of Wells, as we think they should have done. Now, see how truly ignorance begets impudence! After the inquest was adjourned, and Drs. Parker and Gilman had left, Dr. Wells rose and expressed his surprise that gentlemen occupying the places held by Professors P. and G. could be ignorant of the possibility of hæmorrhage from the longitudinal sinus through the ethmoid bone. Let the annals of quackery, from Paracelsus to this hour, be searched for a parallel for the modest assurance of Dr. Parkhurst P. Wells.

We hope that this Report will be extensively circulated, and that medical men into whose hands copies may come, will distribute them among their patients and friends. The exposure of the nothingness of homœopathy, and the ignorance of its supporters, will do good.

J.

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* There is a story connected with this hæmorrhage from the longitudinal sinus through the ethmoid plate, that is too good to be lost: While the inquest was in progress, a report of the evidence, prepared by Dr. Dunham, one of the homœopathic witnesses, was published in the Evening Post; but neither in the testimony of Dr. Wells, nor in that of Professors Parker and Gilman, did one word about the source of the hæmorrhage appear. The young quack had the grace to be ashamed of the ignorance of his senior.

PART III.—CHRONICLE OF MEDICAL PROGRESS.

[The abstracts and translations found under this title are made expressly for the American Medical Monthly.]

Clinical Lecture on Stricture of the Pyloric Orifice of the Stomach, masked by Symptoms resembling Ileus; Diagnostic Marks; Case in Illustration. By Dr. O'Ferrall.

Amongst the embarrassments incidental to the study of abdominal diseases, there are none which require more vigilance than those which arise from the simulation of acute affections of the viscera by the urgent symptoms which occasionally attend the advanced stages of a chronic disease. The clinique of every session brings its examples, in proof of this proposition. A patient is brought into the hospital, laboring under the symptoms of ileus; and it is often difficult, through the mists of an obscure history of the case, to discern the evidence of a chronic thickening of some portion of the colon or rectum, upon which the urgent phenomena depend. Now, here, at least, the existence of obstructive disease may be occasionally presumed, although the uncertainty as to the duration and seat of that disease may raise a question as to the manner in which it may best be treated. A case of ileus, depending on some acute inflammatory action, will require one course of management, while a case arising from either the spasm or atony of individual portions of the intestinal tube, may demand another. The works of the celebrated Dr. Abercrombie abound in practical lessons of this kind. But modifications of treatment, differing somewhat from either, will be suggested by a previous knowledge of the fact, that chronic changes have been progressing to a degree capable of interfering with the functions of the part.

All those points may require elucidation, although, as I have said, the fact of the existence of obstruction of some kind, in some portion of the tube, may be satisfactorily established. In all such cases the difficulty is limited to making a differential diagnosis between the several forms of ileus, and deciding which of them is represented by the case then before us. But you will occasionally meet a difficulty of another kind, namely, that of distinguishing from ileus, in any of its varieties, a case which, bearing a strong resemblance to it, is, however, a pathological condition of another kind. The proposition to the consideration of which, on the present occasion, I wish to direct your attention, is this, that the prominent symptoms of ileus may exist, without any functional or organic obstruction, in any portion of the intestinal tube, below the stomach; that prolonged constipation, with constant vomiting, with pain referred to the umbilical region, and a tumid abdomen, may constitute a group of symptoms, having no other origin than stricture of the pyloric orifice of the stomach.

To those who have not had the advantage of your extensive opportunities of witnessing those cases, the proposition may be startling; but you will recollect how often, during the progress of a well-observed case of chronic disease, I have asked you to consider what diagnosis you would have made if you had, at certain stages of the case, seen the patient *then for the first time.* Now, in the matter before us, you will find no difficulty in recognizing the truth of the following sketch.

A patient complains of uneasiness after food, and this gradually assumes the form of pain referred to some portion of the epigastric region. Sooner or later, relief is obtained by rejection of the aliment. As the disease advances, the vomiting becomes more frequent, and constipation becomes a remarkable feature in the disease. The evacuations become more rare, as the quantity of food suffered to pass through the pylorus becomes diminished. The feculent matter becomes solidified in the colon, and a certain amount of flatulent distention takes place in the parts above it. Here, then, you may have prolonged constipation with vomiting and pain; but no practitioner could possibly think of ileus in a case so clearly pointing to its real nature. But continue to trace its progress a little further. The locality of the pain is no longer the same. It is now referred to a point lower down in the abdomen, and the upper half of this cavity becomes the seat of tumescence, the consequence of habitual distention of the stomach by profuse liquid and gaseous secretions into its cavity.

If now seen for the first time, and that, in addition to prolonged constipation, vomiting, and pain referred to the umbilical region, you have, also, intumescence of the whole abdomen, the case will be less clear, unless the patient accompany the description of his present sufferings with a history of their antecedents, capable of making them properly understood. It may be supposed that the peculiar emaciation of the patient's features might be sufficiently well marked to enable you to recognize the expression of pyloric disease; but you will not find this test so conclusive as you might imagine; for the expression alluded to may actually be mistaken for the collapsed and sunken face of ileus. Constant vomiting, from whatever cause, gives a collapsed appearance to the features; and it will require close observation to enable you, at first view, to distinguish that which depends upon exhaustion from this cause, from that which belongs to a previous disease.

There is, however, one symptom which, even without the history of the case, should awaken suspicion as to its real nature. It is a *transverse wrinkle or fold* in the integuments, and which generally traverses the middle of the umbilical region. Now, this transverse fissure is by no means pathognomonic of pyloric or hepatic disease. Its signification is simply this, that, from some cause, the intestines are not permitted to occupy their usual share of the upper half of the abdomen, and are habitually pressed down, and made to form a separate projection or swelling in the lower half of the cavity. This condition may occur as a consequence of some form of organic disease of the liver or omentum; but then you will find this upper half of the abdomen to yield a dull sound on percussion, while, in the case of great distention of the stomach, the sound is remarkably clear. When both diseases coëxist, the limits of either will be marked by its corresponding modification of this physical sign. This transverse sulcus may be present also in that curious state which, in a former lecture, I have described under the name of *Mimotic Tympany;* but, in the latter case, it is rather a transverse depression than a fissure, and, occurring as it does in very young persons, is not at all likely to create difficulty, or lessen its value as a symptom in the disease of the pyloric orifice of the stomach. Indeed, the soft, pliable, and well-nourished integument of a child could not possibly assume the same deep wrinkled appearance which belongs to the case of an adult, gradually wasting away from inanition. There is another appearance presented by the upper half of the abdominal cavity, which is very characteristic of obstruction in the pyloric orifice of the stomach. It takes place at uncertain intervals; and if it happens to occur at the moment when the abdomen is uncovered before you, it will not fail to suggest its proper explanation. The appearance to which I allude, is a peculiar undulatory movement in the parietes of the stomach; a sort of peristaltic movement, by which the contents are, from time to time, propelled, with an audible gurgling, towards the pylorus, and as often are returned to the great end of its cavity on meeting with the usual resistance. This remarkable movement sometimes developes the external appearance of that peculiar division of the stomach into two portions, which physiologists believe to indicate a separate function belonging to each. Additional assistance may be obtained by percussion over the organ. The peculiar tympany will be elicited all over the stomach, and will mark its limits. It will also conduct the fingers gradually to the point where this phenomenon ceases; and here is generally the seat of the pain. A careful and gentle manipulation will also detect in this situation, even through the general swelling, a deep-seated induration, which belongs to the altered pylorus, and indicates its change of place. The distinction between pyloric tumors and other tumors, when occupying the middle portion or lower half of the abdomen, may often be made in this way.

Another aid in diagnosis may be found in a careful examination of the fluid ejected from the stomach. In disease of the pylorus, I never saw the contents of the duodenum ejected. Bile is never seen after the period when the stricture is formed; and the admixture of feculent matter, which is occasionally met with in ileus, is never observed here. Thus, the character of the fluids ejected may, in doubtful cases, afford negative information of great value; but they will occasionally present an appearance often connected with, though not conclusive of, organic disease; the copious mucous secretions are then mixed with that dark sanguineous exudation, which is called "coffee-grounds." This characteristic vomiting may, it is true, not be had in evidence, on your first visit, or it may be absent in the particular case, and the undulatory movement of the stomach may not take place at the actual moment when the surface is exposed to your view, and the transverse fissure alluded to may be, in some measure, obscured by the general swelling; but, when these three phenomena are present, they should suggest the probable existence of organic disease of the stomach, whatever may be prominent symptoms in the case. The record of a case, lately under your observation in Lawrence's Ward, will recall to your recollection the value of those symptoms in conducting the inquiry:—

CASE.—A man, 60 years old (James Lannery), was brought to the hospital on the 2d of April, 1854. He was considered, by the medical man who had seen him, to be laboring under obstruction of the bowels. Every medicine administered had been rejected by the stomach, and had failed to produce evacuations from the bowels. The poor man was very deaf and stupid, and gave no information in his own case.

The history extracted from those who brought him to the hospital was this:—He was the owner of a turf boat, part of the cost of which still remained unpaid. The boat plied on the Grand Canal, and its station was at Harold's Cross, where the cargo of turf was generally sold. His wife resided near the bog, twenty miles from town, and was in constant attendance on a son dying of consumption. The poor man was, consequently, much neglected, and was accompanied only by two men, assisting to manage the boat. They stated that he fell ill about a fortnight before, and, from that time, never left the miserable cabin where he lay, complaining of pain in the belly, and constantly vomiting. They, at length, induced a poor woman in the neighborhood to receive him into her lodgings; but the nature of his illness, and the advice of a medical man, made her determine to have him removed to hospital. It was stated, that he had had no evacuation from the bowels for eight days, and that nothing remained on his stomach. On admission, he was ordered small doses of calomel, at short intervals, the attendant having ascertained that there was no hernial protrusion or tumor, in any of the usual situations.

On the next morning, I saw him. No evacuation from the bowels had yet occurred. His deafness rendered it almost impossible to communicate with him. His tongue was florid, but not dry; his pulse was 108, small and easily compressed; his wrist was dry, and his hand felt emaciated.

The abdomen, uncovered, was tumid and tympanitic, and bore pressure everywhere, except at the umbilicus; and to this point, I learned, he had referred his pain. The swelling of the abdomen was not uniform, but seemed to consist of two portions, separated by a transverse wrinkle, in the situation where it might be expected to occur in the sitting posture, with the trunk leaning forward. This, at once, attracted my attention, and I desired to see the fluid vomited. It had just before been taken away; and I, accordingly, went to visit other patients in the ward, intending to return as soon as he vomited again. This occurrence soon took place, and, as the quantity was considerable, and it contained a proportion of "coffee-grounds" matter, my suspicion was increased. On again uncovering the abdomen, I percussed the upper half carefully, and found its resonance to be sharper than that of the lower. Tracing this resonance downwards, and to the right side, it ceased about the umbilicus; and here I could detect a deep-seated, but distinct tumor.

Pressure here was, evidently, painful, as his countenance indicated. In the course of this short examination, my attention was attracted by a gurgling noise, and distinct movement in the tympanitic swelling, just below the margin of the ribs, on the left side; the prominence became less at the extreme left of the part, while the bulging traversed from left to right, approaching the spot where the induration had been felt; the projection was here, for a moment, very great, but almost immediately began to subside, while the swelling, like a wave, returned again to the left, and the original condition was reproduced. I had now very little doubt that the poor fellow labored under stricture of the pylorus, and that the constipation was not that of ileus. Renewed attempts were made to procure from the patient an account of his previous health; but little information was obtained. He considered himself tolerably well until about three weeks ago, but admitted that he always had "a bad stomach," and that if he ate bacon at dinner, he was sure to throw it off afterwards.

It would be loss of time to recite the daily occurrences in the case, from this time to the day on which he died, the 19th of April. His strength never rallied. The bowels were opened by enemata, and the lower half of the abdomen lost its tumid appearance, giving more characteristic prominence to the upper portion, in which it was, every day, more easy to recognize the real lesions. His urine was generally scanty and deep colored; no albumen. Specific gravity, 1025.

Notwithstanding the use of every remedy, external and internal, the stomach never seemed to retain food; the quantity rejected far exceeded that taken in; and was always mixed with the dark brown matter before mentioned. Every variety of aliment, mixed, in turns, with brandy or solid ice, were tried in vain; every medicament was employed, but failed either to allay the inverted action of the stomach or restrain the profuse secretions which filled and distended its cavity.

Necropsy.—The general emaciation was considerable; the integuments had a dry and shriveled appearance.

In the abdomen, the stomach occupied a large share of the cavity; it descended, at its great extremity, below the umbilical region, and ascended towards the pylorus, which lay behind the umbilicus. Attached to the greater curvature of the stomach was the contracted omentum, which formed the irregular substance commonly met with in such cases. The surface of the stomach had the yellowish white color and leathery consistence with which every pathologist is familiar; this thickness increased towards the pylorus, which projected in the form of a tumor about three inches long, and two inches and a half thick. The stomach, when opened, was found to contain about two pints of liquid similar to that vomited during life. The finger, passed towards the pyloric orifice, met with firm opposition. The duodenum was then divided, about three inches below its origin, and a quantity of water was poured into the stomach, and made to gravitate towards the duodenum, by holding up the parts in a position favorable to its descent. Not a drop passed from the stomach through the pylorus. A section displayed the usual tortuous or serpentine course, the alternate projections and depressions being mutually accommodated to each other. The mucous surfaces were separated only by a thin layer of reddish mucus, which blocked up the passage. The mucous membrane, when cleared, exhibited a faint red color; it was remarkably firm to the touch, but had no trace of ulceration, or breach of surface. The section exhibited the appearances usually described as hypertrophy of all the tunics and cellular tissue of the part. The liver, of moderate size, was, in color a pale brown, and, at first view, appeared to be free from morbid deposit; at length, on careful inspection, a yellow spot, slightly elevated, and not more than one-eighth of an inch in diameter, was discovered on the upper portion of the left lobe. A section showed this to be a very small tuber of the kind which, when of larger size, is generally called Farre's tuber. Numerous sections were made, in every direction through the liver, but no second specimen was met with. The spleen was rather small, and without deposit; the kidneys were healthy. Nothing remarkable in the loose viscera.

The chest contained no trace of organic disease. The left ventricle of the heart was full of blood, as might be expected from the mode of death. The organ was small, and had no valvular lesions.

Histology.—Dr. Aldridge was so obliging as to examine the specimens. Those from the pylorus and omentum exhibited the ordinary structures of white tissues, consisting of loose fibro-areolar tissue, traversed by dense, whitish bands, and containing fat. The specimen from the liver consisted of soft fibro-areolar tissue, full of milky juice, which, under the microscope, was seen to abound in irregular-shaped, dotted cells, larger than pus globules, and mixed with oil-drops.

The morbid anatomy of this case is full of suggestive matter, but we shall have other occasions for using the materials it supplies. The question of the separate existence *of stricture of the pylorus without cancer*, has been ably treated by M. Andral; and I published, several years ago, researches made in this hospital, with a view to establish the differential diagnosis during life. Our concern at present, however, is, with the practical fact, that certain phenomena, resulting from obstructive disease of the pyloric orifice of the stomach, may simulate a case of ileus, and may, if seen for the first time, and without a clear history of their development and progress, be readily mistaken for that disease.—*Dublin Hospital Gazette.*

Considerations in regard to the Treatment of Displacement of the Uterus.

By J. MATTHEWS DUNCAN, M. D., F. R. C. P. E., Lecturer on Midwifery, etc., etc.

In a late meeting at the Obstetric Society of Edinburgh, I adduced the main part of the following observations in regard to the general aspects of this difficult therapeutic question. Although originally forming part of the discussion of a communication by Professor Simpson, I am induced to publish them now by the pressing interest and importance of the question at this time.

The point of greatest weight to insist upon first of all, is the difficulty of arriving logically at conclusions, on this subject, having even moderately good claims for acceptance,—"the impossibility in these inquiries of commanding all the conditions of any experiment, or continued observation, so as to leave out one after another of those conditions in each repetition of the observation, and have an *instantia crucis* as to any one of them on the result."

In applying the numerical, along with other methods of inquiry, to such therapeutic questions, "the probability is, that the efficacy of the measures under observation will be overrated, because the desired result is the *positive* one of the recovery of patients (not *negative*, as in questions of etiology, having for their practical end the prevention of disease); we know that in almost every case, various causes besides that under trial have contributed to that result; in acute cases, especially, the salutary provisions of nature for the decline of diseases, or, as we may very often more correctly express it, the essentially temporary nature of the diseased action itself; in chronic cases, more remarkably, the unobserved agency of other internal circumstances besides the remedy in question. Of the degree in which these causes have contributed to the fortunate event of any individual case, all candid and intelligent medical men will allow that it is very difficult to judge; and without judging of them, we can have no certain inference as to the power of any remedy."*

In the subject before us, all these difficulties, and more, exist; and we have one of the most complicated and ravelled questions in pathology to solve. The treatment of uterine displacements by intra-uterine pessaries has been now for a considerable time before the profession, and hitherto the difficulties in the way of accurately estimating the value of the treatment have proved so formidable as to deter obstetricians from entering fully into the question. A great deal has been written about the frequency and the diagnosis of these affections, and about the mechanical modes of treatment by intra-uterine pessaries, how they are to be introduced, and how used; but the value and results of the treatment have only lately been discussed. I do not here allude to the short statements which have frequently appeared in the medical press, and which have generally been summary condemnations of the practice, or equally groundless laudations of it. Such opinions have a place in the question as mere opinions, weighing on one side or the other; but they do not assist the real progress of the inquiry.

The difficulties, indeed, of this, as of many other therapeutic questions, are so great as to render any absolute or logically-adjusted resolution of it all but impossible. I may refer, in illustration, to the great question of large blood-lettings in serious acute inflammations, as one similarly complicated, and which, if even now decided, does not certainly owe this to the writings of eminent or philosophical physicians (however much influence such may justly have in guiding the professional mind), or to the debates of learned societies, or to the diligence of statisticians. This question has been decided by the clinical experience of the profession. The revolution from large and repeated blood-lettings, as formerly, to the more guarded use of the lancet, as at present, is mainly due to a gradually-acquired consciousness on the part of the leading men of the profession as to the advantages of the newer method. To say the least, no amount of writing, debate, or of statistics, could have effected this without the gradually acquired consciousness of the profession in accordance with the newer views. And assuredly this question of the treatment of displacements of the uterus, must also rest on this professional consciousness for its final arbitrement. The difficulties surrounding it yield to those of no other subject.

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* Alison.

We are indebted to the fatal result of the treatment in M. Broca's and in M. Cruveilhier's cases, for the stirring up of this question in the heart of the Academy of Medicine of France; and assuredly it could not have fallen into better or abler hands. The attentive perusal of this animated and very able discussion, while it will amply repay the student, will sufficiently attest the truth of the remarks I have just made. Nothing can be clearer than that the question is not brought many degrees nearer a logical issue by this unequaled passage of arms; and it must be gratifying to reflect, that there is another bar by which the question will be tardily but solidly decided, namely, that of the general consciousness of the profession.

The chief difficulties to be kept in mind in the question before us, may be enumerated as follows:—

1. The well-known facility of all patients, and especially of females, inducing them to admit their feeling relief from treatment without good grounds. Every physician must have observed this in a thousand different circumstances; and there can be no doubt it is much more liable to happen when the physician enjoys great notoriety or *eclàt.* In the case before us, this amiable failing in females is aided by the novel character of the treatment, and the imposing aspect of the instruments.

2. The impossibility of deciding the gravity of the affection. The symptoms calling for relief in the cases considered are, painful feelings of various character and site. For the description of these feelings, and the estimation of their intensity, the physician is completely at the mercy of his patient, and is very liable to form misconceptions on the subject. Nervous and hysterical females will probably exaggerate in their statements, and not a few will under-estimate their sufferings. Nor can it be forgotten that malingering, of a modified kind, is not very rare among women in good society.

3. The impossibility of deciding what symptoms, in any case, are due to the simple displacement, and of separating these from what are caused by the engorgement or inflammation of the womb, by irritability of the womb, or of the neighboring organs, or by other more obscure, neuralgic conditions.

Under this head may be mentioned the confusion apt to arise in discussing this subject, from physicians looking at and describing cases from different "points of view." The case of a Lancashire lady, which was lately the occasion of some sharp professional correspondence, may be taken to illustrate this matter. The lady is apparently one of a class who have confidence in different doctors and practices "time about," and whose statements can be of little value. Her case was diagnosed in London by some most eminent obstetricians, as one of fibrous tumor in the back wall of the uterus. In Edinburgh, it was diagnosed by a very eminent accoucheur, as retroversion. If the case had come into my hands, I should possibly have thought it was neither a case of fibrous tumor nor of retroversion, but of enlargement of the uterus. All these statements may have been correct and consonant, although at first sight different. The lady *may* have had an engorged and retroverted uterus, with a fibrous tumor in the posterior wall, and different physicians *may* have seen reason to ascribe the symptoms complained of to one or other of these different unnatural conditions. The great error in this case was the assertion of an exclusive diagnosis by one practitioner as against another. The retroversion could be diagnosed without any difficulty. The existence of a small fibrous tumor (and in such a case the supposed or real tumor must be very small) in the posterior wall of the uterus, if it do not cause deformity of that wall, cannot with certainty be contradicted, after the most careful examination during life; and great doubt will be cast over the case if the uterus is engorged and hypertrophied.

4. The impossibility of saying what part of the good or bad results observed after the treatment is to be attributed to the mechanical retention in the normal position, and what to other conditions of accident, regimen, or simultaneous and diversified treatment. The question even of death as the result of this treatment, has been in some cases successfully perplexed by arguments too ingeniously based on this dilemma. In hearing the mechanical treatment argued for, I have been amused to observe the greediness to seize upon and assert the occurrence of fatal cases from the most trivial uterine operations, such as the application of caustic, or even from inappreciable, undiscoverable causes, while at the same time the greatest pains are taken to discountenance the very idea of fatal results from the permanent intra-uterine pessaries. These instruments are admitted on all hands to cause serious constitutional disturbance occasionally, and sometimes pelvic abscess. The latter affection is well known to be sometimes unavoidably fatal. The partizans, then, of intra-uterine instruments, if they admit (as they do) that they sometimes cause serious pelvic inflammation and abscess, must also admit that they may be directly influential in causing death.

In the public discussions of the value of intra-uterine instruments, it has been painful to observe the levity with which the fatal results of their use have been descanted upon. These deadly consequences have generally been spoken of as mere negative results of the treatment,—as cases of failure. Some of the partisans of this method have even attempted to gloss these dire results, by pointing out that death is sometimes the result of treatment far less imposing in severity than this, and that deaths in general are wonderfully easily caused in some individuals. A French academician has distinguished himself by reaching the climax of this absurdity. While commenting on the mortality among M. Valleix's cases, he exclaimed, in the midst of the Academy of Medicine (and he was not answered), that five or six deaths, in the treatment of 160 cases, of a disease which was always innocent of such results, was not of much importance,* and that the instruments are not dangerous! I have frequently heard it boasted of the British school of medicine, that opinions and practice such as that spoken of and defended by M. Velpeau would not for one moment be tolerated in the professional circles of our country. And I trust we shall never have much reason to defend our profession from the shame of similar views, or our fellow-citizens from being the victims of such practice.

It must not be forgotten, that a certain allowance must be made to the partizans, properly so called, of these intra-uterine instruments, in consideration of their very partizanship, of the novelty of the subject, and of the flattery of many patients and practitioners. Such influences have a wonderful power over most minds, in shutting out the true view of the cause of evil results, and of their importance. But a very little reflection will place the matter in a proper light for every one.

The *gravity and fatality of the disease treated* ought undoubtedly to determine the importance which we should attach to death as a result of treatment. The *severity of the treatment itself* ought to have no weight, unless such treatment have been used to test the powers of endurance of the subject of it.

Uterine displacements are described by those who attribute to them the greatest importance, as affections causing painful feelings of various kinds, and sometimes difficulty and pain in walking, defecation, urination, and menstruation. Fatal consequences are not attributed to them, unless in a very remote degree of indirectness. That such affections, then, should not be subjected to a plan of treatment which is unavoidably fatal in instances which are not extremely rare, is a proposition which requires only to be stated to command assent. And if this be admitted, it follows *a fortiori*, that a treatment which not only occasionally causes death, but frequently induces other diseases, equally bad with the original complaint, and, in any case, rarely if ever cures the displacement, cannot receive the sanction of the profession. If the treatment of uterine diseases by intra-uterine pessaries comes within the scope of these propositions, then their condemnation is inevitable.

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* M. Depaul a cité plusieurs cas malheureux de M. Valleix lui-même; sans doute il y a eu plusieurs cas malheureux, qui peuvent être attribués à une fausse manœuvre; mais, en définitive, 5 or 6 cas malheureux sur 160 observations, c'est fâcheux sans doute, mais ce n'est pas encore de nature à faire rejeter le moyen; et il resterait à démontrer, d'ailleurs, que les accidents dont il s'agit doivent réellement être imputés au redresseur.—SPEECH OF M. VELPEAU. *Gazette Médicale*, 8 Juillet 1854, p. 415. It is only just to M. Velpeau to add, that his own practice indicates very different opinions from those expressed in his speech. He himself desisted from using intra-uterine pessaries, long before they were known in Edinburgh, because *accidents* (not death) occurred in some of his cases.

Fatal results, and numerous injurious consequences, have resulted, here and elsewhere, from intra-uterine instruments. This undoubted fact is sufficient to show the necessity for the most careful use of these instruments, and their restriction to cases of a serious description. But these fatal results and injurious consequences may not have been, or may not be, inevitable. They may not have been inevitable, but the results of unskilfulness, foolhardiness, or ignorance, or neglect of the conditions for the safe use of the instruments. They may not be inevitable, for experience and anxious care may teach us the conditions necessary for safety in the treatment.

A great body of the profession has already a decided opinion in regard to these instruments. Some reject them entirely as dangerous to life; some as frequently, if not invariably, inducing diseases at least equally distressing with that which they are proposed to remedy; others as being, to say the least, quite inefficacious.

I have already said, that if the question of death as a necessary occasional result of the treatment under discussion were decided in the affirmative, then the therapeutic applications of permanent intra-uterine pessaries would be easily limited. But it is necessary to notice some ingenious methods of concealing the force of this argument, adduced by the defenders of these instruments. It has frequently been argued that they were not dangerous, because in many cases they had been worn for months, or even years, without causing death, or any intolerable symptoms. But it is clear that this argument is good only for those cases. Such cases show that intra-uterine instruments may be long worn without fatal or dangerous results in certain cases; but they do not affect the argument of danger equally well demonstrated in the cases of death. There is no method of discovering beforehand which are the cases in which the instruments are to be safe, and which are not. Every case takes part in the risk. To use an illustration, the frequent successful amputations of the thigh, or excisions of the mamma, do not blind the eyes of surgeons to the dangers and fatality of these operations. If it were possible to predict in what cases the amputation or excision would not be fatal, then these operations might be applied to the treatment of the simply painful and not dangerous affections of the knee or breast. The same might be done, were it possible by any care or attention to ward off the fatal result. But surgeons are convinced that amputation of the thigh, and excision of the mamma, are operations which have a certain amount of necessary fatality. They therefore refuse to apply these operations to the treatment of affections of the knee or breast which are not in themselves dangerous to life, or productive of serious and otherwise incurable suffering. It is evident, then, that remarkable endurance of the intra-uterine instruments in certain cases (just as successful amputations and excisions) does not of itself justify the use of these instruments in any case.

Another argument which has been often repeated in defence of intra-uterine instruments, requires only to be mentioned. It has been shown that a large number of these intra-uterine instruments have been purchased from a fortunate surgical cutler. This is exactly the point at which these instruments are of no therapeutic importance. It is not the display of them on the shopman's counter, nor the manipulation of them by purchasers, that is important. The amazement (or amusement) of the patient may be important; but what certainly is so, is their introduction and retention in the female passages, with their ultimate results.

It may here be useful to direct attention to the manner in which surgeons view the occurrence of death after one operation, in their discussions of the new remedy for stricture of the urethra. That disease is one of great danger, and having a very considerable fatality; yet the occasional occurrence of death from the operation has been urged as sufficient reason for its total abandonment, and all the energy of the supporters of the new method has been called out to defend it. But in the novel plans of treatment of uterine displacements, and of other simple and innocent uterine affections, the occasional occurrence of death seems with many to cause no question of their propriety, or even of the circumstances necessary to prevent in future like painful results. Similar remarks might be made as to the importance attached to injurious results, short of death, on the one hand, in the treatment of a very serious disease, namely, urethral stricture, and on the other, in the treatment of many uterine affections which are not dangerous.

Before concluding, I merely remark, that M. Dubois has attracted professional attention strongly to the opinion which he has expressed, that although these intra-uterine instruments do not cure displacement, they may, under certain circumstances, come to be of some use, either by modifying neuralgic conditions of the uterine cervix, as the catheter sometimes does in the urethra, or by inducing an acute inflammatory state of parts previously only engorged, with the hope that the subsidence of the acute inflammatory condition may cause the disappearance also of the engorgement, which is so often the real cause of symptoms attributed to displacement.

In another place (see *Edinburgh Medical and Surgical Journal* for July, 1854), I have expressed my own views as to the nature and treatment of uterine displacements. It yet remains for obstetricians to decide, whether or not intra-uterine instruments can be used with proper regard to the patient's safety, and if so, what are the conditions under which they are to be recommended.—*Edinburgh Monthly Journ. of Med. Science.*

Water Dressing. By Geo. H. Hubbard, M. D.

The following cases are selected to illustrate the success attending the treatment of wounds with water. Although not of great importance as "interesting cases," if their publication can induce any one to abandon the burdensome and too often injurious appliances which have been customary in times gone by, and to substitute therefor the simple treatment by water, a mode of treatment sanctioned by the best surgeons of the present day, perhaps as much good may be accomplished as by a lengthy detail of more intricate and unusual diseases.

In some notes on "water," which I furnished for a previous volume of this Journal, I entered somewhat into the history of its use as a therapeutical agent. At this time I purpose only to give a few cases in proof of the propositions then advanced, that "water is our best dressing in wounds of all kinds."

Case I.—*Incised Wound of the Knee.*

D. P., age 18, made a mis-step while mowing, and in falling struck his knee on the scythe, which rested on the ground with its edge so inclined that the whole weight of his body came upon it at right angles. It was consequently forced into the limb as far as such a blow could drive a sharp edge into bone. The resulting, clean, incised wound severed the ligamentum patellæ, about midway of its length; not directly across, but obliquely, its internal angle being just one inch lower down the limb than the external. The wound was precisely four and seven-eighths inches in length. The capsule of the joint was opened by a clean incision, seven-eighths of an inch long at the external angle of the wound, and a piece of the head of the tibia was split off and slightly movable at the inner angle; but as it could not be removed without cutting it from the ligaments of the joint to which it was attached, it was placed in as good coäptation as possible, and allowed to remain.

When I reached the patient (about an hour after the injury), he was considerably depressed, perhaps as much, or more, from the fright which this gaping wound was calculated to produce, as from the injury. As no important branches of the anastomosing arteries were cut, the hæmorrhage was slight, and that from the small cutaneous vessels had nearly ceased on my arrival. The lower portion of the ligamentum patellæ, which protruded prominently from the wound, was, after removing some bits of grass, brought into exact coaptation, and kept so by means of the twisted suture, consisting of three steel needles, deeply inserted, one and one-fourth inches apart. The limb was laid in a "Goodwin's splint," and kept perfectly extended.

The wound was dressed in *water*, and was never dry for twenty-five days. The temperature of the water was gradually raised after the expiration of ten days, and regulated by the sensations of the patient; keeping it just so cold as was agreeable. For the first week his diet was *water gruel*, afterward, additions were made, very gradually, so that he did not receive full liberty to eat as he chose, for five weeks.

After this wound was first dressed, he had "*no pain*," lost no sleep, and there was but little swelling about the wound. No fever occurred; the wound united by first intention, except a small hole which kept open at the inner angle for about five weeks; doubtless on account of injury done the bone at that point; but at the end of this time it was entirely healed. Two of the needles were removed on the eighteenth day, and the third on the twenty-first. On the fortieth day, he walked two miles with the aid of a small stick.

No medicine of any sort was at any time administered; the water was discontinued on the twenty-fifth day, and an envelop of cotton used to protect the knee both from injury and from cold.

At this time, fourteen months after the injury, he is walking without the aid of a cane, engaged in all sorts of farm-work, having rendered good service on the farm during the past season.

CASE II.

P. R., aged 20, while chopping wood, misguided his axe, and received its full force on the dorsum of the left foot. Taking a somewhat slanting direction it did not go through the foot, as a perpendicular blow of like momentum would have done, but split up portions of the tarsal and metatarsal bones; so that when I examined the foot, about an hour after, I introduced my fingers to the depth of an inch and a half, removing the clotted blood and some small fragments of bone which were entirely separated. The wound was strapped tightly with strips of linen wet with collodion, and a compress bound on to keep the split portions of bone in as good coäptation as possible. A splint, to keep the foot up so as to relax the muscles acting upon its anterior aspect, was used, as many of the extensor tendons were severed. This wound was dressed with "*water, and nothing else;*" was never dry for two weeks; the temperature was raised as the sensations of the patient indicated; it united by first intention throughout its whole extent; there was no suppuration; the bones seemed to unite as readily as the integuments, and on the 28th day he went to his work with but slight lameness, from which he entirely recovered.

CASE III.

A girl, aged 10 years, tried her hand at chopping wood, and, from want of skill and strength, cut her foot severely. Upon examining the wound, I found the great toe nearly severed from the foot, hanging only by the skin, flexor tendons, and vessels of its inferior part. The metatarso-phalangeal articulation was laid entirely open, and the whole articulating surface of the metatarsal bone cut off and loose in the wound, from which it was removed by snipping with scissors some few ligamentous fibres which had escaped the axe. The wound was cleaned, and all loose portions of bone and clots of blood removed. When this was done, the bleeding, which had been profuse, ceased entirely. This wound was brought together by interrupted sutures, and the toe brought into as good shape as possible, and kept so by bandages. Water was the only application made, and to the surprise of all, no pain was felt, no sleep lost; the wound united by first intention, and she has a very good and serviceable toe. I am inclined to think excision of a joint was never more successful than in this case, nor the operation ever performed with a ruder instrument or less surgical skill.

CASE IV.

A man came to me, with a finger the knuckle joint of which he had brought in contact with a circular saw. I found a ragged wound, which had opened the joint and removed portions of cartilage from the articulating surfaces of the bones. After removing all loose substance, the wound was brought together and dressed with collodion and strips of linen. He was ordered to keep it constantly wet with water, of such temperature as was agreeable, with which direction he faithfully complied. I saw the finger occasionally; but as no inflammation or suppuration occurred, I had no more to do with the case, and the first dressings were not removed till the wound was cured. The finger was nearly as serviceable as ever, the joint being but slightly stiffened.—*New Hampshire Journal of Medicine.*

Eight cases of simple Intermittent, and six of Remittent Fever successfully treated by the exhibition of partially denarcotized Opium. By W. S. SINN, M. D., of Chili, Hancock county, Illinois.

By some, opium is highly extolled in periodical fevers for meliorating the cold stage; others have thought it operated most beneficially in the interim or the remission, and a few solitary cases have been trusted to that alone during the whole period of the disease. Perhaps there is no disease that is as amenable to treatment, and its management so clearly pointed out, as that of paludal fever, that has been the subject of such various and widely diversified treatment. Every one knows that quinine is certainly and suddenly destructive to its progress, but something cheaper and newer is the ambition that inspires almost every one that is often called to treat it; for in districts where it prevails extensively, a small fortune in a short time is requisite to cover the expense of the prodigal dispenser of that drug.

The fact that led my mind to the foregoing treatment more particularly was, that when opium was given in combination with the cinchonic salts, that a less quantity of the latter was sufficient to defeat analogous cases in a shorter length of time, and in a manner I do not say *better*, but more satisfactory to myself and patients.

The manner in which I proceeded in the treatment of the afore-mentioned cases, was by cleaning the bowels with six grains of calomel, twenty to thirty grains of rhubarb, succeeding their administration in three doses two hours apart, with a small tablespoonful of castor-oil, and beginning as soon as the bowels were well freed of their superabundance of fecal matter, if no gastric distress was present, with two grains of ipecac. and from three to eight grains of partially denarcotized opium every six hours, no matter at what stage of the disease. If there was irritation in the primæ viæ, the ipecac. was withheld and the opium given solitary.

In every case sleep soon overcame the patient, the pains in the head and back as well as limbs were soon dissipated, copious diaphoresis was established, the circulation perfectly equalized, and in no case did a single chill occur after the medicine had been used twelve hours in the intermittent, and in the remittent by the third day in the longest instance, the disease had yielded and convalescence was safely pronounced. The vertigo, tinnitus aurium, produced by the quinine frequently, is entirely avoided, and the patient enjoys a semi-somnolent state during the time of taking medicine, and at the end of twenty-four or thirty hours slowly emerges from his torpid state, his appetite slowly returns, and so far there has been no case that has had a relapse; and in fact the patient does not appreciate his illness, for he has suffered none.

These cases were all in which I tried the opiate treatment, and these were selected from their simplicity, for they were such cases as one feels safe in persevering in experimentation.

From the treatment, I should have little fears in trying it in cases of gravity; but I would recommend any one to try it in milder cases, before trying it in those of a more dangerous form. I tried merely to save quinine, and I intend to still use it, as long as I am pleased with it, in such cases as the foregoing.—*Nashville Journ. of Med. and Surg.*

A Case of Penetrating Incised Wound of the Abdomen and Small Intestine, resulting in death from internal strangulation. By EDWARD HARTSHORNE, M. D.

The following report has been drawn up from notes taken by the writer nearly twelve years ago, while serving in the Pennsylvania Hospital as House Surgeon, under the superintendence of the late Dr. Randolph, who was then on duty as Attending Surgeon. It was thought to possess sufficient interest as an instance of peculiar homicidal injury, as well as uncommon termination of abdominal wound, to warrant its publication, even at this long interval, and notwithstanding the lack of clinical details to which we are condemned by the unfortunate meagreness of the only data now to be obtained.

Wm. Thomas, mulatto, aged 25, of rather slight frame but excellent previous health and temperate habits, was wounded in the abdomen with a sharp instrument, on the evening of the 13th of November, 1842.

He was brought to the Pennsylvania Hospital, where he was seen by the resident physician within forty-five minutes after the reception of the wound.

When first examined in the ward, he was lying on his back with his limbs extended, appeared to be entirely free from excitement, and exhibited no evidence of prostration or of any uneasiness, except some degree of pain and soreness in the injured part.

According to his own statement he chased his antagonist at least twenty paces, and struck him with a stick two or three times, after the infliction of the injury; he then ran some two hundred yards to an apothecary shop, where he first discovered the protrusion of his bowel. From this shop he was immediately conveyed, in a cab, some four or five hundred yards, to the hospital. The only sensation perceived at the moment when the knife entered his body, was that of a slight nausea. The man had eaten an ordinary supper and taken a glass of beer some three hours previous to the occurrence.

Uncovering the patient brought into view, resting in front of the abdomen and protruding from a wound in its parietes, a pulsating mass, which consisted of two loops of small intestine with their adjoining mesentery. The upper of these loops was about eight and the lower about twelve inches long; they were much darkened in color from venous engorgement, but clean, moist, and glistening, and appeared to be half filled with semi-fluid matter. The lacteals in the mesentery were distended with a white fluid, and resembled in size, shape, color, and abrupt termination, so many pieces of pack-thread.

The wound proved to be incised, an inch in length, and extending almost longitudinally downwards from about two inches and a half below and an inch to the left of the umbilicus, penetrating the rectus muscle in the direction of its fibres. Besides this, however, there existed on the outer surface of the most dependent portion of the lower loop, a transverse opening into its canal, at least eight lines in length, giving exit, on pressure, to alimentary matter mixed with blood, and presenting the clean edges, and characteristic everted mucous margins, of a penetrating incised wound of the intestines.

Notwithstanding the relaxation of the abdominal muscles by flexion of the thighs and elevation of the shoulders, the neck of the hernial tumor was so firmly constricted by the external wound, that safe reduction seemed impracticable without enlargement of the aperture. The incision in the abdominal wall was accordingly prolonged half an inch upwards, by means of a straight bistoury cutting from within outwards, and carefully guarded with a silver director, so as not to touch the peritoneum or other encroaching membranes. The stricture having been thus removed, the whole protruding bowel, except about two inches of its length, which included the wounded part, was gradually reduced. The intestinal wound, which, on account of its transverse direction and the protrusion of mucous lining, gave us little apprehension of extravasation, was now secured according to the plan of Jobert. This was effected with two sutures of fine, waxed-silk ligature, drawn through all the coats of the canal in such a manner as to bring into contact the outer surface of the peritoneal coat, along the whole length of the transverse opening, by turning in its edges like an ordinary seam. The ends of the ligatures were next cut off, and the wounded portion at once returned into the cavity. The closure of the external wound then remained to complete the dressing. Here, on account of the impossibility, in so small an opening, of suppressing the abdominal contents, which were constantly bulging up, it was out of the question, even if otherwise desirable, to pass a suture needle through the muscular parietes without incurring a great risk of puncturing the intestine. The margins of integument alone, therefore, were approximated with three sutures, and as many adhesive strips. A compress of lint was lastly applied over the wound and confined with a circular bandage, so as to prevent hernial protrusion, and enable the longitudinal muscular fibres to approach and unite with each other, if possible, by the first intention.

An opiate of sixty drops of laudanum was given to the patient before the dressing; and although the handling of the exposed parts, unavoidable in their replacement, appeared to occasion a good deal of pain, yet the operation was followed by immediate relief.

Not more than eight ounces of blood had been lost externally; and the only symptom apparent when the man was left for the night, was some degree of soreness of the wound on pressure.

On the following day, November 14th, he presented the following condition. Pulse 96, pretty full and strong, with some head-ache, heat of skin and furred tongue; had slept but little through the night. Very slight meteorism with soreness on pressure around the wound. Bladder has been evacuated in bed without difficulty. No stool. He was bled twenty-four ounces, and directed to take Ant. et Pot. Tart. gr. 1-12th, in Mixt. Neutral. f. ℥ ss. q. h., and Cal. gr. ss., P. Opii gr. j., q. h. t., during the day. Barley-water diet. The bleeding removed the headache, and reduced his pulse in force and frequency. In the evening, the fever and pain were gone; meteorism no greater, and soreness around the wound unchanged. Omit the diaphoretic mixture, and suspend the Cal. and Op.

November 15th, A. M. Patient has slept well throughout the night, and is in good spirits. Pulse 84, soft, skin cool, expression of face good, tongue moist, and slightly furred. Tympanitis somewhat increased, with slight pain on pressure over the abdomen. He began to complain of violent pain in his bowels about noon of this day, at the same time that the tympanitis and tenderness were very much increased. The bandage was loosened, and Morph. Sulph. gr. ss. immediately administered; eight ounces of blood were taken from his arm, until he nearly fainted. The calomel and opium were directed to be given every two hours. Under the influence of the opiates and venesection, the pain moderated. In the evening, the tympanitis was found to be undiminished, and produced great discomfort, particularly in the upper half of the abdomen, which was much more distended than the lower. The pain, also, had again become violent. Ordered Cal. gr. iij. P. Opii. gr. ij. at once, the pills of cal. and op. to be resumed in two hours, and repeated every hour until pain is relieved or decidedly narcotized. Enemata of Ol. Terebinth. in Castile-soap suds were administered three times in the course of the night, and afforded relief by the expulsion of large amounts of flatus. A single ten-grain dose of assafœtida was exhibited in the hope of its relieving the stomach and upper intestines, but it only created nausea and vomiting, with hiccough and eructation.

Wednesday, 16th, A. M. Tympanitis still increasing, and now produces very great oppression. Tenderness on pressure, also, aggravated, especially just above the wound; although the latter looks remarkably well, and presents no evidence of protrusion. Countenance becoming anxious; nausea, hiccough, and vomiting more frequent, and pulse more decidedly depressed; leeches, warm fomentations, and anodyne enemata, were successively employed to no material purpose.

Stercoraceous vomiting made its appearance on the fifth day, and the distension, pain, singultus, and other symptoms of internal strangulation continued to increase in violence, until the patient finally succumbed on the morning of December 20th, six days and six hours after the reception of the wound.

Autopsy, eleven hours after death.—The external aspect presented nothing worthy of especial note, except the very great distension of the upper two-thirds of the abdominal region. The wound in the integuments had cicatrized completely without any hernial protrusion.

In order to expose the abdominal contents as nearly as possible in situ, and without disturbing the relations of the wounded and otherwise altered parts, an oval incision was made through the parietes of this cavity along its costal margin above, down each side, and along the pelvic margin below. The portion of abdominal wall thus detached, was next carefully turned over at its circumference, so as to enable us to look beneath. We then ascertained the cause of strangulation to be an accidental overlapping of a knuckle of one of the hernial loops of small intestine over another portion of the same loop, the overlapping portion being closely bound down upon the other by bands of adhesive membrane, through which it had become attached to the parietal peritoneum in front.

The constriction thus produced was at least half an inch in length, and amounted to a complete occlusion of the alimentary canal. The small intestine was excessively distended as well as externally injected, and at the same time partially adherent in three or four transverse folds, some two-thirds of its length down to the seat of stricture. No distension present below this point. Inflammatory action nowhere very strongly marked, although more so than elsewhere across the whole cavity from two to three inches above the umbilicus down to within about three inches of the pubis. The folds of small intestine and the omentum occupying this region were slightly adherent together and to the peritoneum, and were studded with small patches of false membrane, which appeared to be more numerous and firm on the left side and about the wound, but by no means in such excess as to denote a fatal amount of peritonitis. The wounded part of the bowel was found entirely closed and firmly attached to the peritoneum about three inches above and one inch to the left of the external wound. No effusion of alimentary contents had taken place, nor had any undue inflammation been excited immediately around this spot. Upon separating the newly-formed adhesions, we discovered the sutures fastened to the inner surface of the peritoneum, and within the intestinal canal, into which they appeared to have just finished working their way. The wound in the rectus muscle appeared to have united, although some extravasated blood yet remained unabsorbed. No effusion of serum, and no separate flakes of lymph or traces of pus could be detected. Abdominal peritoneum slightly mapped with fine arborescent injections, but not thickened or roughened except in the parts adjoining the folds and points of adherent bowel already described. Elsewhere, the evidence of inflammation was unimportant. Other organs of the body in each of the cavities were examined in detail, and found to be in perfect health.

The case presented in the foregoing sketch is interesting in many respects, but chiefly so on account of its termination in fatal incarceration or internal strangulation. This accident seems to be of rare occurrence, judging from the small number of analogous facts on record. It is certainly one of great importance in many of its relations, especially where the primary lesion is, as in the present instance, the result of criminal violence. The man who inflicted the original injury of which our patient was apparently the victim, was subsequently tried for his life upon the charge, and was very glad to escape with a long imprisonment for murder in the second degree. The medico-legal aspects of the case, together with some other considerations suggested by it, will form the subject of another communication, in which the writer hopes to present a resumé of a number of the published cases of similar character. He regrets that since the inquiry was suggested by the re-perusal of the notes upon which his own report is based, he has not yet found time to complete the extended references required for such a purpose.—*Medical Examiner.*

Observations upon the use of Sulphate of Quinine. By EDWARD MARTIN, M. D., New Orleans.

It is a singular fact in the history of all things destined to be of use to society, that they should cause a feeling of animosity against them almost proportionate to the services which they are calculated to render; and this, even, in a population which derives an almost daily benefit from them.

In no community is this law more evident than in Louisiana, where the practice of medicine would be impossible without the aid of cinchona and its alkaloids, and yet the prejudice against the use of sulphate of quinine is here carried to the highest degree. The reason is inexplicable. Ask anybody why he condemns its use, and he can specify no good reason; and yet such is his conviction. The terrible mortality which is seen during our epidemics, has struck the public mind with such terror that it is inclined, as unfortunately too often happens, to attribute the deaths to the substance most generally used in the disease, and not to consider them as the result of an unknown and mysterious complaint, which is often rapidly fatal in its termination. On this subject, allow me to have recourse to your estimable journal to bring to public notice some practical facts which I have collected during two epidemics of yellow and pernicious fevers. From these it may be seen how the evil effects of quinine are sometimes improperly appreciated. We will first give a history of those cases in which quinine has been used in large doses.

[Dr. Martin gives the details of seven cases illustrative of this position, which are very interesting, but of which we can only afford to extract the following.—ED. A. M. M.]

Case 1. On the 26th of August, during the epidemic of 1853, Mr. A. St. M———, a young man, 22 years of age, of a good constitution, had been two years in New Orleans, was attacked with yellow fever. A *confrére* and myself treated him during his attack, and after ten days of severe fever, we commenced to allow him to take food. He was still in convalescence, when, the 23d of September, I was called again on account of a symptom, apparently slight, which impeded his recovery. Here is what had happened: The patient, after taking a light breakfast, mostly of underdone vegetables, had suffered from a heavy feeling in the region of the stomach, which lasted until the undigested food was rejected. A cup of weak tea had completely restored him, and when I called, which was two hours afterwards, I found him in perfect health. I therefore thought it a slight indisposition, and prescribed a strict diet. On the 24th, the next day, his father told me that he was suffering from the same disagreeable feeling in the epigastric region, although he had taken no food. I went to see him immediately, and while I was talking to the young man, who was in full possession of his faculties, and explaining to me the nature of his pain, he fell suddenly back upon his bed, and was seized with cramps in the arms and legs, and spasmodic contraction of the muscles. His face became of a dark blue color, and this, but of a lighter shade, pervaded the whole body. The pulse was thready and slow. I no longer doubted that I had before me a case of pernicious fever of an apoplectic type. This state of congestion lasted twenty seconds; but it was only after two minutes' application of cold water to the head and face, and of alcoholic frictions to the whole body, that the patient opened his eyes and recovered his senses, but still so stupefied that it was impossible to make him understand, or to obtain proper answers. This state lasted until the third paroxysm; the pulse became soft, and about eighty-five to the minute, vibrating peculiarly under the finger, and somewhat irregular. In a condition of so much danger, there was no time for hesitation. I prescribed a solution of seventy-two grains of sulphate of quinine in six ounces of water, to be taken in tablespoonful doses every half hour. I also called in consultation a medical friend. We agreed upon the diagnosis and treatment of the case. I saw the patient nearly every hour; the stupor still remained to a certain degree; the pulse was full and soft, and from seventy to seventy-five beats per minute. At 8, P. M., intoxication by quinine manifested itself by simple deafness; at 10 o'clock, this had disappeared. A new paroxysm of agitation now ensued. Twenty grains of the quinine were given by enema, and one drachm in an eight-ounce solution, to be taken in table-spoonful doses every half hour; at midnight, these doses were given at intervals of an hour, and by six o'clock intoxication had taken place. Deafness was nearly complete; the sight was normal; the intellect as the day before. At 9 o'clock, there was extreme agitation, spasmodic movements of the limbs, and some contortions of the body. After a struggle of some minutes, during which all consciousness was lost, the patient recovered and became delirious; from this moment his sight was completely lost, and the pulse, which during the febrile state had been as high as ninety, fell to sixty, and remained so for ten days. Talkative delirium, which, however, did not prevent the patient from understanding our words, and repeating them for hours and hours, lasted five days. Large baths of cold water, with affusions on the head, repeated eight or ten times a day, cherry laurel water, given in large doses and continued for a long time, brought about a gradual amelioration in the delirium, which terminated finally on the sixth day. The amaurosis lasted longer; and one morning the patient informed me, during my visit, that he could see the blue color of the sky; the sight improved from day to day, without, however, becoming perfectly restored. At present, Mr. St. M—— attends to his business, seeing well, but being obliged to use colored glasses to protect his eyes, as the sensibility to light is yet very great.

Case 3. October 3, 1854, at 2, P.M., I was called to see Mr. H., suffering since the day before. During the preceding night, Mr. H. awoke chilled, and attributed his chill to a draught from an open window near his bed. The patient gave no clear account of what happened from this time to the morning following, when, notwithstanding he felt much indisposed, he left for his office, where he remained until a severe attack of fever obliged him to return to his home. When I saw him, he was in the following state: Face congested, intense headache, general lassitude, severe pain in the lumbar region, sensation of weight in the stomach, tongue white, smooth on its surface, thick, and of a blood-red color on the edges, where the teeth had left their impressions; the gums swollen and injected; pulse large and soft, 120 to the minute; and perspiring so much that the sheets were saturated. He was at times delirious, and complained incessantly of pain in the head and back. A purgative enema was ordered, and the following prescribed. A pill containing six grains sulph. quinine, and one-sixth of a grain of opium, which was to be given every half hour. After four had been given, they were to be taken every two hours. I saw him again three hours afterwards; his condition had not changed. The three pills which he had taken had been rejected, and the fourth he retained with difficulty, on account of incessant nausea. I prescribed sinapisms to the inferior extremities, together with an application of dry cups, which were allowed to remain a considerable time, over the whole epigastric region and abdomen. The pills were continued every half hour. At 6 o'clock, I re-visited the patient; no change of importance had taken place, but he had retained six of the pills. By 8 o'clock, he had taken ten pills; the pulse holding up to one hundred and ten, and the intoxicating effects of the quinine but little marked. At this time a consultation was proposed, which I agreed to. Our ideas of the nature of the disease and the treatment were the same. We ordered thirty-six grains of the valerianate of quinine, divided into six pills, one to be taken every hour. At ten o'clock, the pulse was one hundred; perspiration continued free; the intoxicating effects of the quinine had augmented; at midnight this was complete, but the sight remained good; cephalalgia had diminished, although it yet remained to a slight degree; the pulse had fallen to ninety; the intervals in the administration of the pills were increased to two hours. At 3 o'clock in the morning, the phenomena produced by the quinine had disappeared; the pulse had risen to one hundred and twenty; headache and pain in the back less; the hearing good, and sight clear; the tongue dry and brownish in the centre, the edges red; some oppression about the stomach; respiration oppressed; skin dry and burning. I ordered him frictions over the surface of the body with the tincture of arnica and serpentaria, containing, moreover, sulphate of quinine, and an enema of fifteen grains of quinine every two hours, together with two pills, containing two grains of valerianate of quinine, every hour. At 8 o'clock, the pulse was at ninety; the skin dry and acrid; thirst intense; intoxication by quinine complete; the sight remained good. At 9 o'clock, the patient was seized with a general debility; the pulse fell to eighty; deafness had diminished, but sight was completely abolished. For two days the skin remained dry and burning, the pulse remaining at eighty; at the end of forty-eight hours hearing was almost entirely restored; the tongue red on its borders and whitish in its centre, as in the commencement of the attack; the gums scorbutic. A short time after this, the skin became slightly moist, and the patient began to convalesce; but complete amaurosis lasted six days; and now, the 22d of October, the patient is beginning again to see well.

Case 4. On the 29th of September, 1854, I was called to see Mr. F. N. D., a young man, aged 28 years, newly arrived in this city, lately taken sick; preöccupied for some time with the thought of yellow fever, caused perhaps by the news of the sickness of a friend, the patient began to experience a feeling of general indisposition, which terminated in an access of fever, presenting the following phenomena: A chill of considerable duration was immediately followed by intense heat, succeeded by an abundant sweat. Each of these periods had been attended with severe pain in the lumbar region, which also extended higher up the back; a delirium of a peculiar character had followed the cold stage. This consisted in a continuous affirmation of the condition in which the patient thought himself. He was quite well, he said, and would be able to resume his occupation on the following day. This he repeated incessantly. The voice was so feeble that that it was almost impossible at times to hear him, and he was affected, moreover, with general debility. The pulse was one hundred, large and soft. I ordered a purgative enema, and thirty-six grains of valerianate of quinine in twelve pills; the first four were to be taken every quarter of an hour, the second four every half hour, and the third four every hour; frictions over the surface of the whole body with the tincture of cinchona. It was 10 o'clock in the evening when I made my first visit. The next morning I found the patient's skin was hot and dry; the pulse ninety, large, full, and soft; the tongue with reddened borders, but soft and moist; the gums injected with blood, and bordered with a whitish false membrane; deafness but little marked; sight perfectly clear; voice a little stronger, and the pain in the back almost gone; the stomach, on percussion, gave a clear sound. I ordered a bottle of Seidlitz powder in a pint of water, to be taken as a drink during the day; an ounce of powdered cinchona, divided in eight papers, one to be taken every hour. At 12 o'clock, the same condition of things existed; powders had been rejected. I had them replaced by twenty grains of valerianate of quinine, divided in twelve pills, one to be taken every half-hour. At 4 o'clock, the pulse had increased to an hundred and odd pulsations; a large sinapism was applied, which covered the chest and abdomen; and thirty grains of valerianate of quinine, in twelve powders, one of which was to be given every quarter of an hour until eight had been taken, the intervals between the doses to be then increased to one hour, with orders to renew the quantity for the rest of the night. Early the next day the effects of the quinine had manifested themselves to the degree I desired; the skin was dry, and had assumed a dark yellow tinge; the gums were more spongy than the day previous, and the tongue yet red; the deafness was considerable, but the pulse had diminished to sixty-five beats. From this time the patient took every two hours a pill, composed of extract of cinchona, two grains of sulphate of quinine and extract of valerian. For two days no change took place in the patient. I visited him every four hours. The fourth day, at 4 o'clock in the afternoon, some minutes before my visit, he experienced the following phenomena, which I shall describe in his own words: "I felt," said he, "a sensation of heat in the stomach, which extended rapidly towards the chest and heart, producing a sensation of constriction about the throat, terminating at the head, and causing me to lose consciousness for more than a minute." The patient, on experiencing this feeling, had risen up in bed, in a state of extreme agitation, asked his nurse to open the windows to give him fresh air, and at the instant fell over on his bed. I arrived soon after this had taken place; the patient had recovered his senses, although he was yet stupefied. He complained of a difficulty in breathing, and of a weight at the epigastrium. I auscultated his chest, and percussed his abdomen. I found the respiratory murmur scarcely audible, and a dull sound over the stomach. Frictions with the alcoholic tincture of arnica and serpentaria excited the circulation throughout the body; the oppression passed away, little by little; a general perspiration manifested itself on the skin, and in an hour the patient had recovered his usual intelligence. During this occurrence, the pulse, which I had found on my arrival at ninety, gradually decreased to sixty-five; the next day convalescence began, and the patient was in a few days restored to complete health.

Case 7. The following facts came under my observation very recently. One of my own children, *æt.* 7, was attacked by fever of a double quotidian form—*sub-intrans.* This fever was somewhat influenced in its type by the epidemic; thus, the skin had a peculiar dryness, the gums were injected and covered by a white false membrane; the tongue was white in the centre with red edges; the pulse was over one hundred and forty. The attack had commenced in the morning, unpreceded by any cold stage; it continued until 4 o'clock, and then terminated in a slight perspiration, which had hardly set in before the febrile state commenced again. This latter continued during the whole night, ending in slight moisture of the skin, when the fever returned. My first prescription was for a purgative enema, in order to open the bowels, and immediately afterwards four grains of quinine were given by injection; this the patient retained for two hours. In the evening this was repeated; the injection was not rejected until late. During the night the child told me several times that his fingers and hands seemed very diminutive, and made several observations, showing that many objects around appeared to his mind to be diminished. As the fever was rather intense, I did not pay much attention to what he said, attributing it to cerebral excitement. The next morning, whilst waiting for a *confrére*, all medication was suspended; but at 10 o'clock I saw the patient again, and found him playing upon his bed, and they had permitted the daylight to enter into the room. Upon seeing me, he cried out, "*Mon Dieu*! Papa, how small you are!" These words awoke my attention to what had happened the preceding night; and I interrogated the child, to know whether all objects he saw produced upon him the same effect. He told me that they did, but that this impression was only produced at the first moment, and that by degrees the objects resumed their natural size. This state lasted some hours longer, when it completely disappeared, although more quinine was administered to him by absorption and by the mouth.

I could easily cite cases analogous to the preceding; but my object being merely to call the attention of physicians to the effects of sulphate of quinine, administered at certain stages of simple or pernicious intermittent fevers, I confine myself to giving simply a synopsis of these cases; for the reader will remark that in these imperfect observations, I have spoken neither of the urine nor of the fœcal matter. I have wished simply to show that the fatality attendant upon our summer epidemics, which persons are so fond of attributing to the use of quinine, is but too often due to its insufficient or tardy employment. As for the occasional cases of amaurosis which have followed the administration of quinine, they should be attributed to the inopportune and premature application of powerful medicaments for the purpose of restoring sight.

Since its discovery it seems to have been the fate of cinchona to have always found warm friends, and equally ardent enemies. Sydenham and Morton have supported it with all their influence, while Baglivi, Ramazzini, Stahl, and Guncer overwhelmed it with their bitterest reproaches. Now, congestions of the brain, chronic effusions, injections of the mucous membranes, and the convulsions which accompany the fevers of warm and marshy countries, are every day attributed to the sulphate of quinine, by a population who are sustained in their belief by physicians, too little impressed with the dignity of their profession to fear the spreading and supporting of errors which tend to destroy the confidence and respect due to medicine.—*New Orleans Med. News & Hosp. Gazette.*

PART IV.—HOSPITAL RECORDS.

[This department is under the charge of, and compiled and written by,
HENRY MELVILLE, M. D.]

WARD'S ISLAND.—It will perhaps be remembered that we, last month, recorded an operation for ligation of the femoral artery in a case of popliteal aneurism. It has been quite successful; the patient has suffered no constitutional disturbance; the natural heat has fully returned to the surface of the extremity, nor has there been any wasting of the tissues. The aneurismal sac, which had become filled and solid, is now being resorbed.

The case in which Chopart's operation was made for the removal of sphacelated phalanges, has also healed and formed a good stump; although some apprehension appears to have been entertained as to the result, from the scanty allowance of integument in the flap, at the time of the operation.

Trepanning for the cure of Paralysis.—A healthy man, 30 years of age, was admitted with loss of the power of articulation, and of motion of the right side, of nearly five years' duration. The history of his case is as follows: He was wounded, by an iron rake, in the middle portion of the left parietal bone, and in close proximity to the longitudinal sinus, upwards of five years ago; there were present, at the time of the injury, all the usual symptoms of fracture, with depression; there had been no surgical interference, however, farther than the common dressing of the wound. After a short time, consciousness returned, and the muscles of the body became subservient to volition; he had, in fact, so far rallied as to be able to resume his usual avocations. After a period of about six months, however, symptoms of paralysis of the right side, and the organs of speech, began to manifest themselves, and had gradually been increasing up to the time of the operation. Examination revealed the existence of considerable depression of the fractured portions of bone, which accounted for these grave symptoms; the patient expressed a desire for surgical treatment, with the hope of arresting the progress of his malady. Accordingly, on the 18th ult., Dr. Carnochan removed two disks with the crown of the trephine, at the opposite terminations of the depressed portion; these were then connected by two linear incisions made with Hey's saw. The depressed portions were then removed. The *dura mater* was found intact and healthy. The depressed portion of bone infringed on the brain to the extent of a quarter of an inch. The immediate result of the operation was the restoration of articulation to such an extent that, after inspecting the removed portion of bone, he thanked the operator with distinctness and expressed himself as feeling relieved. Hitherto the aspect of the case has been very favorable, but within the last forty-eight hours he seems to flag. There has been no erysipelas of the parts implicated, the dura mater seems to be granulating kindly, and the wound altogether seems healthy, there has been no fever; and yet he does not appear to rally.

Extensive Stricture of the Urethra, with Fistula in Perineo.—This patient was the subject of stricture resulting from neglected gonorrhœa. There was also a fistula with several communicating sinuses. He had been operated on previously, about a year ago, but with unsuccessful results. Introducing a director through the fistulous opening into the urethra in the direction of the external meatus, a probe-pointed bistoury was carried into the urethra, and the fistula laid open, and the stricture divided in its course towards the urethral orifice. The director being then reversed, a similar incision was made towards the bladder. This is, in all essentials, Syme's operation; but at this stage of the proceedings, Dr. Carnochan adopts a somewhat different course. He introduces a female catheter into the bladder, through the external wound made in the operation; he then introduces a gum elastic bougie through the urethral mouth along the tube and course of the divided stricture, up to and through the wound; so that there are two instruments employed, which are allowed to remain until granulation has commenced; they are then removed, and a catheter is introduced through the whole course of the urethra. He prefers this plan because he thinks the female catheter keeps up a better drainage of the bladder, and that the suppurative inflammation, induced by the presence of both instruments, permits a readier passage of the subsequent one and insures a greater chance of permanent patency. I confess that it seems to be a complication of procedure over the simple plan of introducing from the first a silver catheter through the whole course of the canal, and promoting the agglutination of the walls over this. This is the second case I have witnessed during the past year; the first being successful to the best of my knowledge, and the present case proceeding favorably.

Syme's operation through the ankle-joint.—This was a case originally of frost-bite, in which amputation through the tarsus had been performed by some other surgeon; but owing to a scarcity of flap, cicatrization had never been completed. The operation was performed in the usual manner, and a good flap was obtained from the heel. The case is progressing favorably.

Ptosis from paralysis of the "levator palpebræ superioris."—In this case Hunt's operation was preferred, a portion of the integument of the lid being removed, thus bringing it, when cicatrization shall be complete, under the influence of the occipito frontalis.

Stricture of the Rectum.—In this case the sphincter ani was divided, and the stricture partially so; a needle contrived for the purpose was then passed around the strictured portion of the gut, and the ends passing through the anus, were brought within the action of a cerneau; by this means it is sought to cut the stricture gradually through. It appears to me that it might be practicable, in cases where the stricture is situated within operative reach, to remove an ellipsoid portion, with the scissors, in a longitudinal direction through the strictured part, and allow this to heal slowly by granulation, the lips of the wound being kept apart by a plug or string of peas. The objections to such a course do not appear to be insurmountable, and might be obviated by tact and judgment.

Through the *kindness of friends*, the writer of these Reports learns that he is charged with *toadyism*, etc., in always giving so prominent a notice to the practice at Ward's Island, and particularly to the operations performed by Dr. Carnochan. Now, it is a matter of the greatest indifference to me, what the opinion entertained by those who do *not know me* in this *city*, may be; for it can only be by them entertained through ignorance or prejudice. But in order that the friends and subscribers to the MONTHLY at a distance, may know and appreciate the truth with respect to this apparent preference, I will state that Dr. Carnochan is the only one among the surgeons in New York, who, knowing the purpose of my visit to the various hospitals, has extended to me such courteous attention and facilities for observation, as would enable me to give satisfactory report, by becoming possessed of the facts of the case, and of witnessing the operation and its results. I have not hesitated to describe what *I saw* elsewhere, *as best I might*, and which I considered worthy of comment; but I cannot report a case correctly, without the benefit of information on all the points connected with it. I deem this explanation due to the interests of this Journal, not to the opinions of those who have condescended so far to notice my writings, as to give utterance to such a judgment on them.

Those who are devoting attention to opthalmological surgery, will be much interested by a visit to Dr. Glück's Clinique, at the Thirteenth street school. They will see the practical application of the recently-invented eye specula to the diagnosis of disease, very skillfully made, and clearly demonstrated. The Doctor has also performed some very neat plastic operations on the eyelids, and has been successful in restoring, by operation, a large power of vision in a case of double congenital cataract. I must not say more, however, or this too will be put down to puffing by the misinformed. I recommend such to verify the justice of my statements by a visit to the Doctor's clinique.

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PART V.—EDITORIAL AND MISCELLANEOUS.

THE PROFESSION AND PROFESSIONAL EDUCATION.—In the September number of the MONTHLY we took an opportunity to lay before our readers some thoughts upon medical education. These have attracted the notice of several of our exchanges, and, together with other causes, have produced a renewal of the discussions upon medical education, its defects, and its remedies. We confess that neither constitutionally nor by education do we belong to the family of croakers, and ever incline to look upon the bright side of affairs. We have long held that there is in our own country abundant means for obtaining a superior medical education. All that is necessary is that these means shall be used diligently and faithfully; not with too much haste nor with too little diligence. A thorough preliminary education; methodical and careful study of the elementary branches, followed by equal care and method in the more advanced pupilage; a habit of study and observation in the earliest years of practice, whether in hospitals or in private, will do more to arm a man with knowledge necessary to combat disease, than ten years spent in the rollicking life of a medical student in London or Paris.

Still, we know that very many of the profession look upon this same subject very differently. The education of Europe, whether English or Continental, is regarded as excellence; and all that comes short of this, is rudimentary; and all that differs from this, is wrong. It is to be regretted that this is so, for many reasons. To our own mind, a strong national view of the whole subject is the first step to be taken, if we would walk in the way of improvement. Perfection in education, we do not claim to have attained. But while we confess our faults, we do not admit perfection elsewhere.

In the article to which we have before referred, we alluded to the prejudices with which young men especially are apt to return from Europe. Dazzled by the glitter and *éclat* attending the names of the great men of the capitals, their eyes see elsewhere only darkness. Hence, they worship these masters, and are deaf to all other wisdom. Repeatedly have such effects been seen to follow a European sojourn; and than this nothing can be more unfortunate to the young practitioner.

We can see no reason why there should not be acknowledged to be an American as well as an English or French or German school of medicine. The great principles of our science must be everywhere the same; but climate, custom, and other circumstances, produce in all countries peculiarities. Those of America must be learned here, not abroad. And then, the distinction which should attend our own great doers and great writers ought to be cordially granted to them. Why should we wait for the judgment of some other fallible mortal on the achievements of our physicians, because he holds a position in an old hospital of Europe? Such men have too often committed gross blunders, and have too often denied the possibility of every-day practices, for us tamely to acquiesce in or slavishly wait for their decisions. Our opinions should be formed calmly and with consideration, and then should be maintained as calmly, oppose them who may. Our physicians, our surgeons, our obstetricians, men, in all and every department, have achieved too much not to entitle us to assert as properly, and as successfully, our professional as our political liberty.

Such a decided and determined national, American view of the whole subject of medical education is, we repeat it, to our own mind the first step towards any reform. The opportunities which our country offers for professional study should be well considered and duly estimated. The conditions as to means and time at the command of the generality of students, should be weighed; the excellencies as well as the defects of our present system should be properly appreciated, and then can something be arrived at which, by its adaptation to the circumstances of the country, will command the attention and the approval of the profession. Till this is done, we apprehend that all attempts at amendment will be only empirical.

We have before us four papers touching upon these subjects, and could readily turn to more. One of these is from St. Louis; the other three are from Virginia. Of the latter, we give one from the "Virginia Medical and Surgical Journal" entire, because we approve of its sentiments, and believe that it will aid in that self-appreciation which we ought to have. It may perhaps be worth while to say, that this publication is inferior to none in ability and independence.

Another is in the "Stethoscope," and is not marked either by ability or courteousness. Still, it is a good resumé of the action of the National Association upon this subject, and of the opinions of those who lay all defects at the doors of the schools.

The third is the report on this subject made to the Association by Dr. Cabell, of the University of Virginia, and which now first reaches the profession in the Transactions. It is not now possible for us to review it completely, and we will not do it partially, though we cannot refrain from saying that, in our opinion, it is one of the ablest and most scholarlike productions which have been published by this body, and will do much to the elucidation of this vexed question.

All of these papers show that this topic is exciting a deep interest, not only in Virginia, but throughout the country, and, with other indications, prove that the majority of the professors in our schools are ready and willing to lend their aid to any real improvement, and to assist in any plan which will give substantial progress. In this spirit, if it is met with an equally unselfish spirit on the part of the profession at large, we see a harbinger of good to our own body and to humanity.

But we too long detain our readers from the article of which we before spoke, to the general doctrines of which we give our entire consent.

"It is much the fashion, now-a-days, to decry the medical men of the present time, and awful lamentations are often heard in certain quarters over the degeneracy of the profession. Comparisons are drawn between this generation and the one which preceded it, and sad prophecies are uttered as to the inevitable tendency, under the present arrangement of things, to a complete loss on the part of the profession, of that high and dignified position in the eyes of the community which it once held

There is surely no better way of arriving at this result than the continual repetition of these jeremiads at every meeting of the profession, whether the National Association, the state societies, or the local organizations. The public hear of this charge coming from such high quarters, until, very naturally, they think it true. If all the sea-captains in the Union were to meet in solemn conclave, and declare that they knew nothing of navigation, very few persons would be disposed to trust their lives in their hands; and thus our so-called medical reformers, who are the principal agents in sending abroad this impression, ought not to be surprised if the public, so often warned against the inefficiency of the present generation of medical men, should appeal to quackery for that aid which they have been taught to believe cannot be obtained in a more legitimate way.

It is full time that this matter should be noticed, and its evil tendencies checked. The young medical men must no longer sit still and permit this degrading imputation to be cast upon them. We deny the charge, and make the statement unhesitatingly, that the public is, at this time, better served with medical aid, and the profession, as a class, is better able to give them all the advantages of the science, than it ever has been.

The cause of this woful deficiency is generally attributed to the defective condition of medical education, the number of medical schools, and the facility with which everybody is admitted into the profession.

It has been shrewdly suspected that some of these reformers who preach crusades against the medical schools, are like the hungry ass, who, in the dust and confusion of the public road, puts his head over the enclosure, and seeing the grassy pastures and comfortable stalls of a popular college, betrays, with a borborygmic rumble, the emptiness of his stomach. Quoth he, "There are no greater asses than I am," and his sonorous bray of defiance rings through the land. In other words, it is a contest between the outs and the ins. Those who are out are very radical; they want reform. They who are in are well satisfied with things as they are; and the science is neither advanced nor retarded by this struggle for place.

We grant that medical education in this country is defective. We would like to think it possible, in the present condition of things, to improve it, and yet we believe it will work its own cure. It is true that the profession is rapidly increasing in numbers ; the tide is swelling every year, and the ranks are filled to overflowing. Where there used to be one physician, there are now ten. Ten brains are at work in the prosecution of the practice of medicine, and they, too, fired with the fierce competition around them, straining every nerve to command success. Does the public lose any thing by this ? So great is the press, that the young aspirant is *obliged* to struggle with all his might tosucc eed in his profession. The public have an opportunity of selecting from amongst many ; they learn to discriminate ; and though oftentimes the intriguer and trickster gains an ephemeral reputation, the stern common sense of the people eventually and surely brings him to exposure.

So far from losing position and degenerating into ignorance and apathy, the medical mind of this country was never so active as at the present moment. The contest is tremendous, and the competition increasing daily. Go through this State, and contrast the country practitioner with his predecessor. See the number of ambitious young men who are there devoting themselves to their profession heart and soul,—for without this devotion, they will be left behind in the race,—and say no more that we are not as good as our fathers ; it is not so.

Again, we ask attention to the medical literature of the present day. The medical press is teeming with new books, our table literally groans with the publications, original and translated, which are issued by our large publishing houses. Do they print books unless they know that they will find purchasers ? Ask Professor Dunglison or Dr. Meigs if their books are not read, or inquire of Blanchard and Lea if medical books don't pay.

The periodical literature of the science is another evidence of the great activity of the medical mind. More than forty medical journals are issued in the United States, and largely supported by this much-abused profession. In the far west, where the echo of the Indian war-whoop has hardly ceased, we can find a medical paper, with translations from the French and German authors, and oftentimes sensible and original contributions from these degenerate sons of Hippocrates. The steamers are crowded with them, spending the first fruits of their hard labors on a visit to Paris, so that they may be better worthy of public confidence, and make up for those deficiencies in their early education which they now are aware of.

It is time for these things to be talked of frankly and acted on boldly, by the young school of medicine. The false impressions which are thrown abroad, tincturing the public mind, must be met and confuted. Their personal reputation demands it; the dignity and honor of the profession claim it at their hands."

Academy of Medicine.—The November meeting of this society is the occasion for the delivery of the annual oration. This year the oration was postponed from the first to the second of the month, when it was delivered at the lecture room in Clinton Hall, by Dr. J. H. Griscom. His subject was the relative duties of the medical profession and the public—one sufficiently hackneyed to be dull, but which by his manner of treating it, he made quite otherwise. As the oration will, no doubt, be printed, we abstain from giving a synopsis of it, which might do it injustice.

Some steps were taken by the society towards dividing itself into sections for the discussion and examination in each of separate topics pertaining to medicine. This amounts to a division of the whole body into committees on various subjects, with what practical results cannot now be said. The name of this society seems a little unfortunate, compelling, as it does, a comparison to the learned Academy of Paris. Diligence, however, and labor may make this, in time, worthy of a comparison with that; but only great diligence and continued labor can accomplish it.

Annual Meeting of the New York Society for the Relief of Widows and Orphans of Medical Men.—This anniversary was celebrated by a dinner at the Astor House. About one hundred and twenty-five sat down to tables well loaded with the substantials and delicacies of the season. After due discussion of these, time being allowed for the slowest to reach the bottom of the bill of fare, the more intellectual part commenced. It is not our province to give a detailed account of all that was said and done. The following statement by the treasurer will, however, command attention:—

Annual Statement.—The Society was instituted in 1842, and the capital is now $16,268 79. The investments amount to $16,200, and are in bonds and mortgages, six in number, in sums of $4,000, two of $3,000, $2,400, $2,000, $1,800, all bearing interest at 7 per cent.; leaving a small balance of $68 79 in the hands of the treasurer. The loans are, without exception, on improved property in this city, and (one in) Brooklyn; the ground in every instance being worth the amount of the mortgage, without regard to the improvements thereon, which are insured and policy assigned. The receipts for the past year, from every source, were, from donations, $243; initiation fees and annual subscribers, $380; life subscribers, $160; interest, $1,014 15; total, $1,797 15;—and the disbursements, $318 25. The Society continues to carry out the benevolent purposes of its organization, in the family of one of its late members. Two gentlemen have joined the Society within the past year; and sixteen members have died since its organization. The present number of members is eighty-two, of whom forty-two are life members, by the payment of $100 at one time; and forty annual, pay $10 a year. The benefactors, constituted by the payment of $150 or upwards, have increased to nine, and three laymen are in the number. The Society pays money only to those widows who are left with a smaller sum than the interest of three thousand dollars, so that though its assistance is not great to any one, it is afforded to those who bitterly need it.

During the evening, contributions were announced from a number of gentlemen, and there must have been a perceptible increase in the funds. Such a charity, carefully conducted, is an honor to any profession or people.

THE CITIZENS OF SAVANNAH AND THEIR PHYSICIANS.—It is not very often that an opportunity occurs of chronicling such an incident as the following. All our readers remember the sad accounts which reached us during the last summer, of the desolation of Savannah by yellow fever. Not only did the physicians of the city remain at their posts—some even dying in the discharge of their duties—but professional assistance was volunteered from Mobile and New Orleans. In estimation of the valuable services rendered by them, at a large meeting held on the 14th of October, after the cessation of the epidemic, the following were the proceedings. John E. Ward, Esq., the Mayor of the city presided.

Drs. Redwood and Hamilton, of Mobile, and Dr. Cross, of New Orleans, were, by resolution, invited to be present; and on their appearance, the Mayor, in a most eloquent address, expressed to them the deep gratitude of the citizens of Savannah for the noble and heroic service rendered by them during the late epidemic, and presented to each of them, in the name of the city, a service of plate, as some small token of the kind feeling of the people of the city toward them.

On motion of Dr. Screven, the following resolutions were unanimously adopted:—

Resolved, That the warmest acknowledgments of thankfulness are due, and are hereby tendered by the citizens of Savannah, in town meeting assembled, to the resident physicians of this city, who, undismayed by the peril of their valuable lives, have faithfully discharged their arduous and dangerous duties; to those transient physicians, who, with self-sacrificing devotion, volunteered, and gave their services to the sick, and to all corporate bodies, charitable associations, and other associations and individuals, who have manifested their sympathy in our afflictions, by contributing in any manner to the relief of the sufferers by the epidemic with which this city has been visited.

Resolved, That the thanks of every citizen are due to the clergy of our city, who have, without an exception, been true to their holy calling, ministering at all times to the wants of the sick, and comforting the afflicted.

Resolved, That the citizens of Savannah will erect a suitable monument, commemorative of those gallant and ever-to-be-lamented physicians who have fallen in our midst, in the faithful discharge of their perilous duties.

On motion, it was resolved, that a committee be appointed by the chairman, consisting of such number as he may deem advisable, to carry into effect the last resolution.

BLANCARD'S PILLS.—The difficulty of procuring the iodide of iron in such a way that decomposition should not take place, has long been felt by the profession. These pills are intended to remedy this. The statement of the maker is that each pill contains one grain of iodide of iron, and one-fifth of a grain of finely powdered iron, all enveloped in balsam of Tolu. They are uniform in shape and size, and have but little odor. We have no experience in their use; but having received the sanction of the French Academy they come to us with a recommendation which entitles them to a trial. Should they prove to be all that is hoped, they will constitute a valuable addition to our pharmaceutical preparations.

PHYSICIAN'S VISITING LIST.—This useful little book is almost a matter of necessity to all doctors. Its prompt appearance for next year shows that a large demand is anticipated, and those wishing copies should supply themselves at once.

THE CLAMP SUTURE IN CLEFT PALATE.—We recently witnessed an operation for this affection by Dr. J. Marion Sims, of this city, in which he used this peculiar method of suture. The case was a bad one; articulation very indistinct, and deglutition of fluids frequently attended by regurgitation through the nostrils. The clamp suture, composed of very fine silver wire, fastened to small leaden cross-bars, will remain innocuously in the tissues for an almost indefinite period, which constitutes its great superiority over any other suture. In this case the clamps were removed on the sixth day—the cure was perfect.

This is not, by any means, the first case of the sort in which Dr. Sims has applied this suture with success; and it is our opinion that the operation of staphyloraphy, by this method, will never fail, if properly performed.

It is well known that difficult and tedious labor sometimes results in the most deplorable injuries to the mother: such as laceration of the perineum bladder, or bowel, and that these affections were wholly incurable till the introduction of the clamp suture by Dr. Sims. It is no wonder, then, that the Profession, both in Europe and America, unite in according to him the highest praise for this great boon to science and to suffering humanity. And now, since he has demonstrated the easy curability of cleft palate by the same means, we cannot but hail it with delight as another triumph of American Surgery. G.

NOVEL MODE OF OPENING AN OVARIAN CYST.—Dr. Sims, of this city, has recently performed this operation in a mode which is new and which seems to possess several excellencies. A trocar, fifteen inches in length, curved so as to be the arc of a circle of four and a half inches radius, was, with its canula, inserted at the usual place of tapping in abdominal dropsy. After a portion of the fluid was drawn off, the point of the trocar was drawn within the canula, which, after several attempts, was finally carried to the cul-de sac, between the uterus and rectum; and when felt there by the finger in the vagina, the trocar was again protruded, the sac and the vagina perforated, and the extremity of the canula brought out between the labia majora; thus, in fact, transfixing the patient. A self-retaining catheter was then attached to the canula, and drawn into the ovarian sac, where, being separated from the canula, it was secured within the sac. The canula was then withdrawn, and the external opening closed. In this way the contents of the cyst were allowed to drain entirely away, and it is hoped that obliteration of the sac and the cure of the patient, will be the result. At our present writing, nearly three weeks after the operation, she is going on well.

OPHTHALMIC SURGERY.—The study of this speciality is almost a matter of necessity to those who are compelled to practice all portions of our art. In the European schools a separate course is provided for this department, and requiring, as it does, delicacy and exact discrimination in the diagnosis and in the frequently required operations, nothing can be more reasonable than that a portion of time should be especially devoted to it. Among the many facilities for this study which our city offers, none are superior to those offered by our friend Dr. Glück, whose advertisement is found in this number, and whose valuable clinical lectures have, by their publication in our pages, elicited great praise for their author. Dr. G. was educated at Vienna, under Jæger and Rosas, and has industriously followed Sichel and Desmarres at Paris. Being a Hungarian, and having rendered efficient services as surgeon to his nation's army, he became an exile for his love of liberty. Passing several years in London, he there was associated with Guthrie and the other eminent oculists of the city, and thus brings to his pupils the results, not only of a long experience himself, but of an extensive observation of the practice of the most distinguished teachers of this department. We earnestly advise students and practitioners to avail themselves of this opportunity of making themselves familiar with this department.

STATE AND MUNICIPAL MEDICAL OFFICES.—It is to be regretted that the distribution of patronage in offices requiring medical men as executives, should be made so completely subservient to political partizanship as is the case at present. Can it be possible that a man whose time and attention must be given, as a means of qualification, to the constant and exciting business of political intrigue, can devote his attention to the study, observation, and acquisition of practical experience, absolutely indispensable to the proper discharge of those professional duties which, on appointment, he will be called on to perform? Duties which involve the welfare of the whole community; which call for a comprehensive acquaintance with the widest range of medical philosophy, which can be acquired only by large opportunities of investigation, careful analysis, great thought and reflection, much and judicious reading, and a watchful and minute comparison of the records of all nations. Yet these are the elements of fitness for such a position as that of Health Officer to a populous city like New York—the focus of foreign immigration—the *centrum radiorum* of population to an extended area of country.

Is it wise to stimulate the desire for political controversy and polemics in minds which ought to be entirely devoted to the no less intricate and certainly more valuable study of public hygeine, medical statistics, and climatic influences?

Is it just to distribute the prizes for high scientific acquirements, personal zeal and devotion to professional duties, individual merit and need, upon subservient partizans, whose claim rests principally on their activity in a course foreign to their professional avocations, and entirely opposed to the successful pursuit of medical science?

These interrogatories are addressed respectfully to those who exercise the distributive prerogative. Let wisdom, prudence, and justice regulate the choice to be made in all those offices now to be filled by medical men, and we shall be satisfied. Let professional and personal merit alone be the guide for selection. Discountenance the prejudicial system of making political influence and zeal the determining qualities, where practical knowledge, enlarged views, scientific reputation, and independent opinion, ought alone to decide.

Nor is it only to those in whom the power of appointment lies, that we address our remarks.

It is customary among the profession to prepare and forward to the dispensers of patronage recommendatory memorials of candidates. Let this be done cautiously and, if possible, unanimously. Let the world see and feel that we at least believe in something beyond sectional politics—that we regard the public welfare as of higher importance than individual success, and that we are determined to give our suffrage to knowledge, experience, and aptitude, irrespective of every other consideration. The responsibility of making an improper appointment will then rest entirely with those who abuse their prerogative in opposition to competent judgment.

Not that we would be supposed to imply that medical men should abstain from exercising their political privileges and franchise. As citizens they owe it as a matter of obligation to their country to discharge these functions to the best of their judgment and information; but beyond this, they will generally find it a losing game to become engaged in the turmoil and responsibilities of partizanship, notwithstanding the tempting bait held out in the lucrative emoluments of Health Officer, and other similar posts.

‡

Proceedings of Medical Societies.—There are in this city a considerable number of Medical Societies, some of them strictly private and limited in their numbers, others more extended and public. Of all which we have had an opportunity of attending, we do not hesitate to give the preference, in all desirable respects, to the Pathological Society. Vigorous and prospering, its sessions every other week are characterized by a degree of interest on the part of all its members, which cannot but exert a beneficial influence upon all within its reach. The Academy, which is larger in its numbers, stands next in its influence on the profession. There is about its sessions a certain stately dignity which undoubtedly impresses strangers, though not always very favorably; but a dearth of those elements which alone render such associations profitable, occasionally suggests the trite quotation, "*Stat nominis umbra.*" A certain term of residence in the city is a prerequisite to election, so that this is hardly a portion of the *republic* of science, in which all men are free and equal.

The names of others indicate their aims. Among them are the Microscopical, the Statistical, and the Therapeutical Societies, each laboring in its particular field, and all possessing good reputations.

The doings of these various bodies are usually of some interest to the profession generally, and it is our purpose in the next number, the commencement of the third volume of the Monthly, to devote one part to their reports. These we shall obtain, wherever it is possible, from official sources; but when it is not, must use other means in those societies to which we may have access. The endeavor will always be to give a fair, impartial, and accurate report, and neither care nor diligence will be wanting to accomplish this. Any assistance, however, which may be rendered to us by secretaries or others, will be gratefully appreciated.

Addendum.—By accident, in Dr. Gardner's "Case of Abscess of the Rectum succeeding Child-birth," upon page 338 of this volume, the post-mortem appearances were omitted, which we here subjoin.

Postmortem, 4 o'clock P. M., made by Drs. Lidell and H. W. Brown. Body exceedingly emaciated. The abdomen alone was opened. An abscess was found, opening into the rectum on the left side, of an irregular shape, as if several smaller ones had united, and in the total capable of containing two or three ounces. There was considerable thickening and injection of the rectum and sigmoid flexure, but no ulceration or other active disease. The bladder showed a dark spot, as if a slough was in formation, of the size of a white bean. The *meatus urinarius* thickened and inflamed. The kidneys were decidedly far advanced with Bright's disease. The liver fatty. The stomach filled with grumous matter, but showing no lesion.

Asylum for Inebriates.—No class so well understands the advantages of and necessity for such an institution, as physicians. By their advice, legislatures have frequently been solicited to found them; and the whole profession will be glad to see any thing which seems to indicate that there is some earnestness in the effort now making to establish one. We, therefore, give without hesitation or contraction, the report of the directors, and their appeal to the public:—

We, the undersigned, appointed by the Legislature of the State of New York to organize an institution to be known as "The United States Inebriate Asylum, and to act as Commissioners to receive subscriptions to the capital stock of said Asylum," do herewith submit to the public the following statement:

The object of this institution is to provide an asylum for the poor and destitute inebriate, where his physical and moral condition will be alike the care of the physician and the philanthropist, and where his labor may be rendered productive and of service to his family. With the asylum there will be connected work-shops, in which each patient, as soon as his condition will permit, will be regularly employed—thus making the asylum a self-supporting institution. It will be seen that the community will thus be relieved of the burden of maintaining inebriates in almshouses and prisons; who will be separated from the society of those incarcerated for public crimes, and placed where their inebriety will be treated as a *disease*, and where no efforts will be wanting to produce in them a thorough reformation; and where an income from their labor will be secured to their families, who otherwise would be left to penury and suffering. To carry out successfully the great aim of the institution, $50,000 must be raised; this being the amount of capital stock required by the charter. This amount, which can be increased when necessary, is divided into shares of $10 each. Any person wishing to subscribe to the capital stock, can send his name, with the amount he will take, to any one of the directors.

We think it judicious to lease a building or buildings (until suitable edifices can be erected) for the purpose of entering at once, or as soon as practicable, upon the work for which the charter was granted. In accordance with a provision in the act of incorporation, there will be a report on the third Wednesday of January in each year, of the proceedings, expenditures, income, and condition of the Asylum, verified by the affidavits of the President and Treasurer, which report must be filed in the office of the Secretary of State.

In regard to the necessity of an institution of this character, we cite no less authority than Dr. BENJAMIN RUSH:

"To the account of physical remedies," he says, "I add one more, viz. The establishment of a hospital in every city and town in the United States for the exclusive purpose of hard drinkers. They are as much the objects of public humanity and charity as mad people. They are indeed more hurtful to society than most of the deranged patients of a common hospital would be if they were set at liberty."

We are happy in giving assurance that this enterprise meets with the approbation and encouragement of many of the most intelligent and philanthropic members of the community. The directors put forth this brief statement of their object and plan of operations, with the expectation of meeting a quick and cordial response from the benevolent of this and other sections of the country. The call for sympathy and material aid in laying a permanent basis of an institution that promises much for the recovery and salvation of a large number of the human brotherhood, we are confident will not be unheeded.

This institution is not designed to conflict with any other method for recovering the inebriate. There is nothing, we believe, similar to it, in this or in any other country. Thousands will look to it for help, and help they should and must have. That which was worth creating is worth preserving. The benevolent Father puts it in our power to save those who are ready to perish. To rescue a fellow-being from physical and spiritual thraldom, is worthy of the exercise of the highest talent and of the purest love. To redeem from ruin is greater than to create. To turn one from vice to purity, from darkness to light, from death to life, to make him the possessor of a free, enlarged, and beautified existence, is a divine mission. Everywhere goes up the wail of wrecked humanity, of prostrate and suffering brothers. From every side comes the cry for help. They are the true workers who respond to this cry. They are enriched in giving, and blessed in blessing.

Fellow citizens, Fathers, Brothers, and Sisters! Give us your aid in this branch of beneficence; and the blessing of multitudes will be your reward.

Hon. Washington Hunt, Lockport,
G. P. Parker,
Hon. E. A. Lambert,
Anson G. Phelps.
J. D. Wright,
Jacob S. Miller, M. D.,
Newell A. Prince,
Jeremiah Terbell,
C. C. North,
Robert C. Embree,
Alfred Brush,
Henry Dubois,
Noah Worrall,
G. B. Alvord,
Hon. E. R. Morgan,
Hon. Zadoc Pratt, Prattsville,
J. Edward Turner, M. D.

ITEMS OF MEDICAL NEWS.

Dr. John E. Stocks, one of the most promising of the botanists of India, has lately died, in England. In 1853 he brought home to England a very valuable herbarium of Bombay plants. Another distinguished botanist, P. B. Webb, died suddenly, not long since, in Paris. He possessed one of the largest private herbaria in Europe. He had travelled for scientific research in the Mediterranean regions, Spain, Italy, and the Canary Islands. He was joint author with Bertheldt of the History of the Canary Islands.

Several cases are reported in the foreign papers of fatal cholera, brought on by taking medicines purchased of grocers as "certain cures." Legal investigations into some of these have been instituted.

Dr. Francis Wrightson, after giving an analysis of the *Sewerage Products* of Birmingham and other towns in England, suggests that the immunity from epidemics enjoyed by that town, may be owing to the large quantities of the oxides of lime and other metals diffused through the atmosphere from the chimneys of its various manufactories. These, he thinks, may combine with the various miasmatic vapors and gases so as to form harmless compounds.

At the 24th annual meeting of the British Association for the Advancement of Science, held at Liverpool, in September, Dr. Inmann said that he had met in one of the Liverpool hospitals a *black man* whose hands were white, and whose legs had become as white as any white man's. He had been treated with mercury while in China, some eighteen months before, and suffered sharply from rheumatism. Soon after, the white spots began to appear. On his face, too, white spots appeared during cold weather, but in summer a darker skin covered them. Dr. Carpenter narrated the well-known case of an American negro turning white. Such cases are not rare among the negroes of the Southern States and the West Indies.

The editor of the Dublin Medical Press, true to his nationality, entitles a case of bayonet wound, a case of "bad gunshot wound." ‡ ‡

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